

PERSONAL PROPERTY MANUAL

Prepared by
Division of Property Taxation
Department of Local Affairs

After Review by the Advisory Committee to the Property
Tax Administrator and Approval by the State Board of Equalization
Pursuant to §§ 39-2-131 and
39-9-103(10), C.R.S.

Published Pursuant To
§ 39-2-109(1)(e), C.R.S.

Preface

The Assessor Reference Library (ARL) Volume 5 is part of a series of manuals that address property valuation and assessment. ARL Volume 2 contains assessment procedures, processing policies, and legal references for administration of the assessor's office. ARL Volume 3 is the land valuation manual. ARL Volume 4, when published, will be the improved property valuation manual.

The purpose of ARL Volume 5 is to provide a reference source for appraisal and assessment policies and procedures for the valuation of personal property according to the Colorado Constitution and statutes.

Valuation and/or assessment issues not pertaining directly to the valuation of personal property may be referenced to one of the other ARL manuals, as appropriate.

Constitutional amendments or statutory changes that occur after the publication dates, shown at the bottom of each page, supersede the provisions of this manual.

ASSESSOR'S REFERENCE LIBRARY
VOLUME 5 - PERSONAL PROPERTY VALUATION MANUAL
CONTENTS CHECK LIST

The following list indicates all up-to-date sections and the order in which they should appear in your manual. Indicate any pages missing from your ARL Volume 5, Personal Property Valuation Manual, complete the name and address box on the opposite side of the form, fold the form so that the address for the Division of Property Taxation shows, staple, affix a stamp, and mail the completed form. **Bold typeface indicates updated material as of the December 2005 Statutory Advisory Committee hearing, effective January 1, 2006.**

<u>Section</u>	<u>Pages</u>	<u>Date</u>
Title Page	i	Revised 1-03
Preface	ii	Revised 1-05
Contents Check List	v-vi	Revised 1-06
Glossary of Abbreviations	vii-viii	Revised 1-02
Table of Contents	All	Revised 1-06
<u>Chapters:</u>		
Chapter 1	No Change	Revised 1-05
Chapter 2	Pages 2.11-2.12	Revised 1-06
Chapter 2	All other pages, no change	Revised 3-05
Chapter 3	Pages 3.31-3.32	Revised 1-06
Chapter 3	All other pages, no change	Revised 1-04
Chapter 4	All	Revised 1-06
Chapter 5	No Change	Revised 1-02
Chapter 6	Pages 6.01-6.07	Revised 1-06
Chapter 6	Pages 6.15-6.34	Revised 1-06
Chapter 6	Pages 6.37-6.224 (BELs)	Revised 1-06
Chapter 6	All other pages, no change	Revised 3-05
Chapter 7	Pages 7.01-7.02	Revised 1-06
Chapter 7	Pages 7.05-7.08	Revised 1-06
Chapter 7	Pages 7.27-7.36	Revised 1-06
Chapter 7	Pages 7.39-7.46	Revised 1-06
Chapter 7	Pages 7.51-7.54	Revised 1-06
Chapter 7	All other pages, no change	Revised 3-05
Index	No Change	Revised 1-05

County	_____
Name	_____
Street	_____
P.O. Box	_____
City	_____
State	_____
Zip	_____

Division of Property Taxation
1313 Sherman St., Room 419
Denver, CO 80203

Place Postage Here
Post Office Won't
Deliver Otherwise

Division of Property Taxation
1313 Sherman St., Room 419
Denver, CO 80203

Glossary of Commonly Used Property Tax Abbreviations

AG	Attorney General
ARL	Assessors Reference Library
ASOP	Annual Statement of Property
BAA	Board of Assessment Appeals
BEL	Basic Equipment List
BIA	Best Information Available
BOE	Board of Equalization
BOCC	Board of County Commissioners
BRC	Business Records Corporation
CAA	Colorado Assessors Association
CACI	Colorado Association of Commerce and Industry
CAMA	Computer Automated Mass Appraisal
CASS	Colorado Agricultural Statistics Service
CATA	Colorado Association of Tax Appraisers
CBOE	County Board of Equalization
CBREA	Colorado Board of Real Estate Appraisers
CCI	Colorado Counties Incorporated
CCI	Colorado Customware Incorporated
CIC	Computer Information Concepts
CDOT	Colorado Department of Transportation
CLT	Cole-Layer-Trumbel
CML	Colorado Municipal League
COD	Coefficient of Dispersion
COV	Coefficient of Variation
CPEC	Colorado Public Expenditures Council
C.R.S.	Colorado Revised Statutes
DDA	Downtown Development Authority
DLG	Division of Local Government
DOLA	Department of Local Affairs
DPT	Division of Property Taxation
DURA	Denver Urban Renewal Authority
ECS	Eagle Computer Systems
EPA	Environmental Protection Agency
FIRREA	Financial Institutions Reform, Recovery, and Enforcement Act
FSA	USDA - Farm Service Agency (formerly ASCS)
GIS	Geographic Information System
GRI	Gross Rental Income
GRM	Gross Rent Multiplier
IAAO	International Association of Assessing Officers
LV	Land Value
MRA	Multiple Regression Analysis
NERF	Netback Expense Reporting Form
NOD	Notice of Determination
NOI	Net Operating Income
NOV	Notice of Valuation
NRCS	Natural Resource Conservation Service (formerly SCS)
OLLS	Office Legislative Legal Services
PIN	Parcel Identification Number
PPDS	Personal Property Declaration Schedule
PTA	Property Tax Administrator

Glossary of Commonly Used Property Tax Abbreviations (cont)

PUD	Planned Unit Development
RCN	Replacement Cost New
RCNLD	Replacement Cost New Less Depreciation
RPTD	Real Property Transfer Declaration
SBA	Small Business Administration
SBOE	State Board of Equalization
SNOD	Special Notice of Determination
SNOV	Special Notice of Valuation
SME	Special Mobile Equipment
SMI	Severed Mineral Interest
SMM	Special Mobile Machinery
SPSS	Statistical Package for the Social Sciences
SR	Sales Ratio
TD	Treasurer's Deed
TD-1000	Real Property Transfer Declaration
TIF	Tax Increment Finance District
URA	Urban Renewal Authority
USPAP	Uniform Standards of Professional Practice
WD	Warranty Deed

ARL VOLUME 5
PERSONAL PROPERTY MANUAL
TABLE OF CONTENTS

Chapter	1	Applicable Property Tax Laws
Chapter	2	Discovery, Listing, and Classification
Chapter	3	Valuation Procedures
Chapter	4	Personal Property Tables
Chapter	5	Performance Analysis
Chapter	6	Oil and Gas Equipment
Chapter	7	Special Issues
Index		

CHAPTER 1 APPLICABLE PROPERTY TAX LAWS	1.1
LEGAL BASIS	1.1
ASSESSOR'S RESPONSIBILITY	1.2
Property Discovery	1.2
Property Listing	1.2
Property Classification	1.2
Real Property	1.2
Fixtures	1.3
Personal Property	1.3
Taxable Personal Property	1.3
Exempt Personal Property	1.3
Private Property:	1.3
Public Property:	1.4
Property Dedicated to Religious Worship and Charitable Purposes:	1.4
Self Propelled Equipment, Motor Vehicles, and Other Mobile Equipment:	1.4
Statutory Exemptions	1.5
Valuation for Assessment	1.6
Level of Value	1.6
Assessment Rate	1.7
Suspicion of Removal	1.7
Valuation Certification	1.7
Tax Warrant	1.7
TAXPAYER'S RESPONSIBILITIES	1.7
Submitting the Property Declaration Schedule	1.8
Personal Property Filing Requirements	1.8
Failure to Submit the DS 056	1.8
Failure to Fully and Completely Disclose	1.9
Declaration Schedule Information	1.10
Year Acquired and Cost Data	1.10
Market and Income Data	1.10
Market Data:	1.10
Income Data:	1.10
Apportionment of Personal Property Valuation	1.11
Movable or Portable Equipment:	1.11
Skid Mounted Oil and Gas Drilling Rigs:	1.11
Proration of Personal Property Valuation	1.12
Collection of Taxes on Property Moving Out of One County to Another	1.13
Additional Information	1.13
Taxpayer Appeals Procedures	1.13
Notice of Valuation	1.13
Assessor Hearing	1.14
Appeal of County Assessor's Determination to CBOE	1.14
Appeal of the CBOE's Valuation Determination	1.14
Arbitration Process	1.15
Board of Assessment Appeals	1.15
District Court	1.15
Court of Appeals	1.15
Abatement or Refund	1.15
Refund of Interest	1.16
Colorado State Tax Refund for Businesses Program	1.16
ADDENDUM I-A, PERSONAL PROPERTY ASSESSMENT CALENDAR	1.19

CHAPTER 2 DISCOVERY, LISTING, AND CLASSIFICATION	2.1
DISCOVERY AND LISTING OF PERSONAL PROPERTY	2.1
Overview	2.1
Declaration Schedule	2.1
Recorded Documents and Other Discovery Sources	2.2
Obtaining Depreciation Information	2.3
Obtaining New Sales Tax Account Listings	2.5
Review of Property Account Files and Records	2.5
Physical Inspection	2.5
Assessor Responsibilities	2.5
Provide Declaration Forms	2.6
Use Approved Data	2.6
Approved Manuals	2.6
Forms	2.6
Appraisal Records	2.7
Notices of Valuation	2.7
Maintain Accurate Records	2.7
Account Identification System	2.8
Business Activity Code (5 digits):	2.8
Ownership Number (5 digits):	2.8
Physical Location Number (3 digits):	2.8
Archives Requirements	2.9
Confidentiality	2.9
Taxpayer Responsibilities – Declaration Schedules	2.11
Exemption of Consumable Personal Property	2.12
\$2,500 or Less Per County Exemption	2.12
Section A - Name, Address, and Location	2.13
Section B - Start-Up Date and Product/Service Type	2.14
Section C - Business Status	2.14
Section D - Listing of Personal Property	2.14
Section E - Unlicensed Mobile Equipment	2.16
Section F - General Ledger	2.16
Section G - Depreciation	2.16
Accessing Taxpayer Colorado Income Tax Records	2.17
Section H - Leased, Loaned, or Rented Personal Property	2.17
Section I - Declaration and Signature	2.18
Lessor Personal Property Declaration Schedule	2.18
Other Pertinent Information	2.19
CLASSIFICATION	2.19
Real or Personal	2.19
Characteristics of Fixtures	2.19
Taxable or Exempt	2.20
Exemption of Consumable Personal Property	2.20
Exemption - Actual Value of \$2500	2.21
Agricultural	2.22
Agricultural and Livestock Products	2.22
Agricultural Equipment Used on the Farm or Ranch	2.22
Livestock	2.23
All Other Agricultural as “All Other” Property	2.23
Residential Household Furnishings	2.23
Intangible Personal Property	2.23
Inventories of Merchandise, Material and Supplies	2.24
Automatic Rollover Leases	2.25

Service Organization Property Leases.....	2.25
Property Secondary (Sub) Leases	2.25
Business Personal Property Not As Yet In Use	2.26
Personal Effects.....	2.27
Property Leased to Governmental Entities	2.27
Works of Art.....	2.28
Proof of the Display Location's Exemption.....	2.29
Proration of Works of Art Valuations.....	2.29

CHAPTER 3 VALUATION PROCEDURES	3.1
DATA COLLECTION AND ANALYSIS	3.2
General Data	3.2
Specific Data	3.2
Comparative Data	3.3
APPLICATION OF THE APPROACHES	3.3
Cost Approach	3.4
Types of Cost	3.4
Reproduction Cost New	3.4
Replacement Cost New	3.5
Manufacturer's Cost	3.5
Original Installed Cost	3.5
Cost to Current Owner	3.5
Trade Level	3.6
Unique Personal Property	3.6
Bulk Sale of Personal Property Assets	3.7
Cost Approach Procedure	3.7
Estimate Replacement Cost New	3.7
Original Installed Cost Trended by Cost Index:	3.8
Determination of Current RCN From Outside Sources:	3.9
GSA List Prices	3.9
Pricing Catalogs	3.9
Acquisition Costs of Similar Property	3.10
Local Cost Surveys of Equipment Dealers	3.10
Commercial Replacement Cost Manuals	3.10
Determine Accrued Depreciation:	3.11
Measure Incurable Physical Depreciation:	3.12
Long-lived Equipment:	3.13
Average-lived Equipment:	3.13
Short-lived Equipment:	3.13
Estimate Effective Age	3.13
Determine Remaining Economic Life	3.14
Calculate Incurable Physical Depreciation to Arrive at % Good	3.14
Measure Curable Depreciation & Functional Obsolescence	3.15
Measure Incurable Functional and Economic Obsolescence	3.15
Measuring Overall Depreciation Through Capitalization of Loss:	3.15
Isolating Extraordinary Functional & Economic Obsolescence:	3.16
Calculate Replacement Cost New Less Depreciation:	3.16
Valuation of Used Personal Property:	3.16
Sales Comparison (Market) Approach	3.17
Comparable Sales Method	3.17
Collect and Confirm Comparable Sales Data	3.18
Minimum Standards for Sales Data:	3.18
Sources of Data:	3.19
Select Appropriate Units of Comparison	3.19
Adjust Comparable Sales Data Using Market Data	3.20
Percentage Adjustments:	3.21
Dollar Adjustments:	3.21
Step 1 - Collect and Confirm Comparable Sales Data	3.22
Step 2 - Select Appropriate Units of Comparison	3.22
Step 3 - Adjust Comparable Sales Data Using Market Data	3.22
Step 4 - Array/Analyze the Adjusted Comparable Sales	3.22
Step 5 - Estimate the Current Actual Value of Subject	3.23

Income Approach	3.23
Estimate Gross Income.....	3.24
Deduct Allowable Expenses to Calculate Net Income	3.25
Determine Capitalization Rate	3.26
Capitalize Net Income Into an Indication of Value	3.26
Final Estimate of Value	3.27
Reconciliation	3.27
Best Information Available Valuation.....	3.28
Estimating Actual Value	3.29
Data Sources.....	3.29
Comparable Property Records.....	3.29
Subject Property Records.....	3.29
Supply Catalogs	3.29
Appraisal Manuals/Industry Guides/National Averages	3.30
Penalties	3.30
Penalty for Late Filing.....	3.30
Penalty for Failure to Fully & Completely Disclose Personal Property.....	3.31
Special Considerations	3.32
Level of Value	3.33
Personal Property	3.33
Assessment Rate.....	3.33
VALUATION INFORMATION FOR TAXPAYER REVIEW.....	3.33
COMPLIANCE REQUIREMENTS.....	3.34
SUMMARY	3.34

CHAPTER 4 PERSONAL PROPERTY TABLES.....	4.1
COST FACTOR TABLES	4.2
Industry Reference Numbers	4.3
2005 Replacement Cost New Factors.....	4.4
2005 Cost Index - Fixtures/Leasehold Improvements.....	4.6
Average Economic Life Estimates	4.7
PERCENT GOOD TABLE	4.11
Depreciated Value Floor.....	4.12
Valuation of Used Personal Property	4.12
LEVEL OF VALUE ADJUSTMENT FACTORS	4.16

CHAPTER 5 APPRAISAL PERFORMANCE ANALYSIS	5.1
PURPOSE OF ANALYSIS	5.1
Valuation Equity.....	5.1
Equal Taxpayer Treatment.....	5.1
BENEFITS OF ANALYSIS.....	5.2
Verification of Data.....	5.2
Promotion of Accuracy.....	5.2
TYPES OF ANALYSES	5.2
Office Review.....	5.2
Definition	5.2
Overview	5.3
Review Objectives	5.3
Procedures For Office Review	5.3
Physical Inspection.....	5.4
Definition	5.4
Overview	5.4
Objectives.....	5.4
Physical Inspection Planning	5.5
Personal Property Audit Plan.....	5.5
Accounts To Be Analyzed	5.6
Initial Telephone Call	5.6
Appointment Verification Letter	5.6
Conducting the Performance Analysis Interview	5.7
General Demeanor	5.7
Getting the Taxpayer to Cooperate.....	5.7
Conduct Physical Inspection.....	5.7
Examination of Accounting Books and Records.....	5.8
Business Enterprise Information.....	5.8
Financial Records.....	5.10
Periodic Financial Statements.....	5.10
General Ledger	5.10
Subsidiary Ledgers	5.10
Books of Original Entry.....	5.10
Primary Source Documents	5.10
Substantiating Documentary Evidence.....	5.10
External Evidence.....	5.11
Other Company Records.....	5.11
Comparing Appraisal and Accounting Records.....	5.11
Asset Classification List Reviewed.....	5.11
Acquisition/Disposition Records Analyzed.....	5.12
Performance Analyses Tests Performed	5.12
High and Low Value Item Test.....	5.12
Asset Category Test.....	5.12
Assessment Status Test for Property Owned by Others	5.12
Additional Information	5.12
Document Findings and Conclusions.....	5.12
Reconcile Approaches and Estimate Value	5.13
Notify Owner of Performance Analysis Results.....	5.13
Letter Explaining Performance Analysis Results.....	5.13
Special Notice of Valuation (SNOV) For Omitted Property.....	5.13
SUMMARY	5.14
ADDENDUM 5-A, AUDIT STANDARDS.....	5.15
Topics for Inclusion in the Plan.....	5.15

Purpose of the Plan.....	5.15
Personal Property Accounts Characteristics	5.15
Audit Plan Time Frame	5.16
Listing of Office Resources.....	5.16
Types of Audit Analyses and Account Selection Criteria	5.16
Specific Program Triggers for Priority Selection	5.17
Account Selection Criteria.....	5.17
Audit Work Paper and Documentation Guidelines.....	5.18
Assessor Signature Section	5.18
ADDENDUM 5-B, SAMPLE LETTERS	5.19
Advising Taxpayer of a Physical Inspection	5.19
Advising Taxpayer of the Results	5.20

CHAPTER 6 OIL AND GAS EQUIPMENT VALUATION.....	6.1
INTRODUCTION AND LEGAL BASIS	6.1
APPROACHES TO VALUE.....	6.2
Cost Approach	6.3
Sales Comparison (Market) Approach	6.3
Income Approach	6.4
market approach VALUATION PROCEDURES	6.4
Detailed Discussion of Valuation Steps.....	6.5
STEP #1 – Itemized Inventory of Property	6.5
Itemized Listing Required From Operators	6.5
Physical Inventory by the Assessor	6.6
STEP #2 – Production Total	6.6
Request Information From Operator	6.6
Verification by Assessor	6.7
STEP #3 – Well Depth	6.8
STEP #4 – Method of Production	6.8
STEP #5 – Geological Basins	6.8
STEP #6 – Selection of Appropriate BEL	6.8
STEP #7 – Condition of Equipment	6.9
Very Good	6.9
Average	6.9
Minimum	6.9
STEP #8 – Stripper Well Status (marginal production)	6.10
STEP #9 - Apply Level of Value Adjustment Factor	6.10
STEP #10 - Multiply By the 29 Percent Assessment Rate	6.10
Waste Oil Recycling Operations	6.10
Leased/Loaned Equipment Included in the BELs	6.11
BASIC EQUIPMENT LISTS AND VALUATION GRIDS	6.11
HISTORY OF THE BASIC EQUIPMENT LIST	6.12
MARKET VALUE OF ADDITIONAL INSTALLED EQUIPMENT	6.14
Valuation Procedures	6.14
Wellheads as additional equipment	6.14
Dual Wellheads	6.14
Flanged Wellheads	6.14
Threaded Wellheads	6.15
Combination Wellheads (Threaded Casinghead/Flanged Tubinghead)	6.15
Atypical Wellhead Use	6.15
Vapor flare/recovery systems	6.15
Vapor Flare System (Enclosed Stack)	6.16
Vapor Recovery System	6.16
Additional installed Equipment List	6.17
MARKET VALUE OF STORED EQUIPMENT	6.18
Valuation Procedures	6.18
Stored Equipment List	6.20
EXAMPLES	6.23
Example Well Equipment Appraisal #1	6.23
Example Well Equipment Appraisal #2	6.25
Example Well Equipment Appraisal #3	6.27
Example Well Equipment Appraisal #4	6.29
Example Well Equipment Appraisal #5	6.31
ADDENDUM 6-A, COUNTY/BASIN CROSS REFERENCE	6.35
ADDENDUM 6-B, EQUIPMENT VALUATION WORKSHEET	6.36

CHAPTER 7 SPECIAL ISSUES.....	1
SPECIAL ADMINISTRATIVE ISSUES.....	1
Apportionment of Value.....	1
Movable or Portable Equipment.....	1
County of Original Assessment.....	1
Auxiliary (Movable) Equipment.....	2
Amended Apportionments.....	3
Oil and Gas Skid-Mounted Drilling Rigs.....	3
Drilling Rigs Destroyed Prior to Next Assessment Date.....	4
Proration of Value.....	6
Works of Art.....	6
SMM & Ad Valorem Tax – Form 301.....	7
Exceptions to Specific Ownership Taxation.....	9
Equipment Moving Through Ports of Entry.....	10
Form 301.....	10
SPECIAL VALUATION ISSUES.....	11
Assets in Storage.....	11
Consumable Personal Property - Exemption.....	11
Technologically Advanced Equipment.....	12
Personal Computers (PCs) and Accessories.....	13
Other Computers and Stand-Alone Computer Peripherals.....	13
Excluded Equipment.....	15
Use of Market Guides to Value Computer Equipment.....	15
Computer-Integrated Machinery and Equipment.....	16
Computer-Integrated v. Modular-Controlled Equipment.....	17
Telecommunication Equipment and Systems.....	18
Equipment Excluded from This Classification.....	18
Conditional Sales Agreements Versus True Leases.....	18
True Lease.....	19
Conditional Sales Agreements.....	19
Differentiating Between a Lease and a Conditional Sales Agreement.....	19
Responsibility for the Reporting of Leased Property.....	19
Gaming Equipment.....	20
All Terrain Vehicles (ATVs).....	20
Snow Cats.....	20
Medical Equipment.....	20
Pipeline Classification and Valuation Procedures.....	22
Statutory References.....	22
General Policy Provisions.....	22
Definitions.....	23
Pipeline System.....	23
Gathering System.....	24
Product Transmission System.....	24
Distribution System.....	24
Pipeline Classification Policies.....	24
Classification of Pipelines as Personal Property.....	24
State Assessed vs. Locally Assessed Pipelines.....	24
Gathering Pipeline Systems vs. a Trunk/Transmission Pipeline Systems.....	25
Pipeline Valuation Procedures.....	25
Cost Approach Valuation Procedures.....	25
Establishing Original Installed Cost:.....	26
Components of Historical Cost:.....	26
Establishing Current Reproduction Cost New:.....	28

Special Rule Regarding the “Freezing” of the Cost Trending Factor:	28
Calculation of Depreciation	29
Normal Physical Deterioration:	29
Extraordinary Physical Deterioration:	30
Functional/Economic Obsolescence:	31
Special Procedures For Newly Acquired Used Pipeline Personal Property:	32
Depreciated Value Floor for Pipelines (15 percent):	32
Income Approach Valuation Procedures	33
Step #1 - Obtain an Income and Expense Statement:	34
Step #2 - Determine Net Operating Income:	35
Step #3 - Determine an Appropriate Capitalization Rate:	35
Step #4 - Capitalize Net Operating Income to an Actual Value Estimate:	35
Step #5 - Allocate Value into Real and Personal Property Components:	36
Market Approach Valuation Procedures	36
Making Market Adjustments to Comparable Pipeline System Sales:	37
Determining Market Values for Pipeline Systems Using Comparable Sales:	38
Reconciliation of Valuation Approaches to a Final Estimate of Value	38
Locally Assesed Pipelines	39
Level of Value Adjustment (Rollback) Factor	39
Best Information Available (BIA) Valuation of Pipelines	40
Bibliography of Sources	40
Example Valuation of an Oil and Gas Gathering System	40
Valuation of Subject Gathering System	41
Valuation of Gathering System Field Line and Right of Way:	41
Determination of Functional/Economic Obsolescence:	42
Valuation of Field Structures:	43
Valuation of the Field Office	43
Total Valuation of Gathering System Assets	44
Market Approach to Value	44
Income Approach to Value	44
2005 Cost Trending Factors & Percent Good Tables	45
Satellite Receiving Ground Stations	46
Security Systems Classification and Valuation	46
Residential Property Owner’s Security Systems	46
Leased Security Systems	47
Service Station Lifts, Pumps, and Storage Tanks	47
Software	48
Telecommunication Towers	50
Discovery and Classification	50
Valuation of Telecommunication Towers	50
Video Arcade Games	51
ADDENDUM 7-A, 2005 DRILLING RIG DEPTH SCHEDULE	52
Market Valuation Depth Schedule	52
CONDITION RATINGS	53
Good	53
Fair	53
Poor/Stacked	53
ADDITIONAL ITEMS	54
LEVEL OF VALUE ADJUSTMENT FACTOR	54
Drilling Rig Valuation Example	54

INDEX.....	55
-------------------	-----------

CHAPTER 1

APPLICABLE PROPERTY TAX LAWS

Chapter 1 discusses the legal basis for the valuation and assessment of all taxable personal property in Colorado. The assessor and taxpayer's responsibilities are explained and corresponding statutory references are included. Chapter 1 provides a broad overview of the entire manual. The remainder of the manual discusses the specific policies and techniques used to value personal property.

In addition, Chapter 1 provides an assessment calendar that lists the dates the law requires specific activities to occur. The calendar lists all assessment activities and notes statutory references. The Personal Property Assessment Calendar is found in **Addendum I-A, Personal Property Assessment Calendar**.

LEGAL BASIS

The Colorado Constitution and the Colorado Revised Statutes are the legal foundation upon which all valuations for assessment are determined. Taken together with valuation procedures and case law, the Constitution and statutes provide the necessary guidance for the valuation of all property for ad valorem (property tax) purposes.

The constitutional and statutory references in this manual are taken from the Colorado Revised Statutes. The Colorado Revised Statutes, commonly called the "Red Books," are published by Bradford Publishing Company, Denver, Colorado.

The Division of Property Taxation prints **ARL Volume 1 - LEGAL REFERENCE MANUAL** which provides copies of the relevant portions of the Constitution and an index of Constitutional and statutory citations. For questions involving legal interpretations or when litigation is involved, reference should always be made to the Colorado Revised Statutes (C.R.S.).

The ad valorem tax law in Colorado is specific in that it mandates the consideration of the three approaches to value in determining the value of personal property. The assessor should document the process by which the three approaches were considered and the reasons why a particular approach produced the most representative values for a class of property as required by § 39-1-103(5)(a), C.R.S., and Montrose Properties v Board of Assessment Appeals, 738 P.2d 396 (Colo. App. 1987).

However, the statutes also require that if the taxpayer has timely and properly filed the personal property declaration schedule, including costs of acquisition, installation, sales/use tax, and freight to the point of use, the cost approach shall establish the maximum value and the market or income approaches can only be used to establish value if they produce a lower value than the cost approach as required by § 39-1-103(13), C.R.S. The law is also specific in mandating which property is taxable and which is exempt.

ASSESSOR'S RESPONSIBILITY

The county assessor is the official who is responsible for the discovery, listing, classification, and valuation of all taxable property within each county, except public utility property which is the responsibility of the Division of Property Taxation (Division).

PROPERTY DISCOVERY

Discovery is the process whereby the assessor locates or discovers property to be valued. There are several techniques and sources of information useful to the assessor to accomplish the discovery of property. A complete discussion of the discovery process is found in **Chapter 2, Discovery, Listing, and Classification**.

PROPERTY LISTING

The assessor is required by § 39-5-101, C.R.S., to list all real and personal property located in the county on the assessment date.

A declaration schedule form, on which the taxpayer who owns more than \$2,500 in total actual value of personal property shall list all personal property, must be furnished to the taxpayer as soon after January 1 as practicable as required by § 39-5-107, C.R.S. Additional information regarding the listing of personal property is found in **Chapter 2, Discovery, Listing, and Classification**.

PROPERTY CLASSIFICATION

Property is defined by § 39-1-102(13), C.R.S., as both real and personal property.

Colorado statutes require that certain procedures be used for valuation of different kinds of property. Therefore, prior to valuation, the assessor classifies personal property based on the classification system established by the Division of Property Taxation.

All classes and subclasses established by the Division are listed in **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES MANUAL, Chapter 7, Abstract of Assessment Instructions**.

REAL PROPERTY

Real property is defined in § 39-1-102(14), C.R.S. The definition may be paraphrased as all lands or interests in lands, all mines, quarries, minerals in and under the land, all rights and privileges thereunto, and improvements.

Improvements are defined in § 39-1-102(7), C.R.S. The definition may be paraphrased as all structures, buildings, fixtures, fences, and water rights erected on or affixed to land, whether or not title to such land has been acquired.

FIXTURES

Fixtures are defined in § 39-1-102(4), C.R.S. The definition may be paraphrased as those articles that were once movable chattels, but have become an accessory to or a part of real property by having been physically incorporated therein or annexed or affixed thereto. Fixtures include systems for the heating, air conditioning, ventilation, sanitation, lighting, and plumbing of a building. These systems will be collectively referred to as fixture systems.

Fixtures do not include machinery, equipment, or other articles related to a commercial or industrial operation, which are affixed to the real property for proper utilization of such articles. In addition, for property tax purposes only, fixtures do not include security devices and systems affixed to any residential improvements including, but not limited to security doors, security bars, and alarm systems. Refer to **Chapter 2, Discovery, Listing, and Classification**, for a more complete discussion of fixture systems.

PERSONAL PROPERTY

Personal property is defined in § 39-1-102(11), C.R.S. The definition may be paraphrased as everything which is the subject of ownership and which is not included in the term real property. Personal property includes machinery, equipment, and other articles related to the business of a commercial or industrial operation rather than components of fixture systems that are required for the proper operation of the improvements.

Taxable Personal Property

The assessor has the responsibility to determine if property is exempt from property taxation under Colorado law, except for property granted exemption by the Property Tax Administrator under §§ 39-3-106 through 39-3-113, and § 39-3-116, C.R.S. All personal property is taxable in Colorado unless specifically exempted by sections 3 to 6 of article X of the Colorado Constitution.

Exempt Personal Property

To be valid, the property tax exemption must be described in the Colorado Constitution. Several classes of personal property, both private and public, are listed in the Constitution as being exempt from property taxation. Colorado Constitutional exemptions are shown in four categories below. Applicable statutory citations follow these Constitutional exemption categories under the topic heading Statutory Exemptions by Category of Property.

Private Property:

Sections 3 to 6 of article X of the Colorado Constitution describe the following categories of private property as being exempt.

- Nonproducing unpatented mining claims
- Household furnishings not used to produce income at any time
- Personal effects not used to produce income at any time
- Inventories of merchandise, materials and supplies that are held by a business primarily for sale or consumption by the business
- Livestock
- Agricultural and livestock products

- Agricultural equipment used on a farm or ranch in the production of agricultural products
- Intangible personal property not owned by a state assessed public utility, e.g. stocks and bonds; copyrights, patents, trademarks, and other special privileges; franchises; contract rights and obligations; and operating software. Intangible personal property is exempted by 39-3-118, C.R.S. Certain intangible personal property, e.g. stocks and bonds, once was taxable, but its status was changed to exempt by Constitutional amendment. Computer software was exempted in 1990.

Certain classes of property in sections 3 to 6 of article X of the Colorado Constitution are exempt by definition and the assessor has the responsibility to determine whether or not property meets these criteria for exemption.

A complete discussion of the private exemptions described in the Colorado Constitution is found in **Chapter 2, Discovery, Listing, and Classification**.

Public Property:

Section 4 of article X of the Colorado Constitution exempts all personal property owned by the state, counties, cities, towns, other municipal corporations, and public libraries. The exemptions described in section 4 of article X of the Colorado Constitution include property owned by a political subdivision of the state, including school districts and special districts.

The property of the United States is exempt from all taxes imposed by the state of Colorado, including property taxes. The exemption of U. S. government property from state taxes is found in Section 4 of the Enabling Act. The Enabling Act allowed Colorado to enter the Union in 1876. Specific information about public property exemptions may be found in **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES, Chapter 10, Exemptions**.

Property Dedicated to Religious Worship and Charitable Purposes:

Section 5 of article X of the Colorado Constitution authorizes the exemption of property used for religious worship, private nonprofit schools and charitable purposes. The taxpayer must prove qualification for exempt status after filing an application with the Property Tax Administrator as described in § 39-2-117, C.R.S. Specific definitions for property exemptions under the provisions of Section 5 of the Colorado Constitution are found in §§ 39-3-106 to 113 and 39-3-116, C.R.S. Any questions about these exemptions should be directed to the Division of Property Taxation, Exempt Property Section.

Self Propelled Equipment, Motor Vehicles, and Other Mobile Equipment:

All motor vehicles, wheeled trailers, semi-trailers, trailer coaches and mobile and self-propelled construction equipment are valued based upon a graduated specific ownership tax, which is imposed in lieu of ad valorem taxation as required by section 6 of article X of the Colorado Constitution and title 42 of the Colorado Revised Statutes.

Statutory Exemptions

The following is a reference list of categories of exempt property and their corresponding statutory citations.

Agricultural and livestock products	§ 39-3-121, C.R.S.
Agricultural equipment (farm and ranch)	§ 39-3-122, C.R.S.
Charitable property **	§ 39-3-108, C.R.S. § 39-3-109, C.R.S. § 39-3-110, C.R.S. § 39-3-111, C.R.S. § 39-3-111.5, C.R.S. § 39-3-112, C.R.S. § 39-3-112.5, C.R.S. § 39-3-113, C.R.S. § 39-3-116, C.R.S. § 39-3-105, C.R.S.
City or town property	
Consumable personal property	§ 39-3-119, C.R.S.
County fair property	§ 39-3-127, C.R.S.
County lease-purchase property	§ 30-11-104.1, C.R.S. § 30-11-104.2, C.R.S.
County owned property	§ 39-3-105, C.R.S.
Credit Union personal property	§ 11-30-123, C.R.S.
Household furnishings not producing income	§ 39-3-102, C.R.S.
Indian property (on reservation)	By Treaty
Intangible personal property	§ 39-3-118, C.R.S.
Inventories of merchandise and materials and supplies held for sale or consumption by a business	§ 39-3-119, C.R.S.
Livestock	§ 39-3-120, C.R.S.
Municipality leased property	§ 31-15-802, C.R.S.
Nonproducing Unpatented Mining Claims	§ 39-6-116, C.R.S.
Personal effects not producing income	§ 39-3-103, C.R.S.
Private school property **	§ 39-3-107, C.R.S.
Public library property	§ 39-3-105, C.R.S.
Religious worship property **	§ 39-3-106, C.R.S.

School District lease-purchase property	§ 22-32-127(1)(b), C.R.S.
School District leased or rented property	§ 22-32-127(1)(b), C.R.S.
School District owned property	§ 39-3-105, C.R.S.
Software	§ 39-3-118, C.R.S.
Special District property	§ 39-3-105, C.R.S.
Special District lease-purchase property	§ 39-3-124, C.R.S.
State lease-purchase property	§ 39-3-124, C.R.S.
PP of \$2,500 total actual value or less per county	§ 39-3-119.5, C.R.S.
Until Personal Property is First Used by Current Owner	§ 39-3-118.5, C.R.S.
U. S. Government property	Enabling Act
Works of Art	§ 39-3-102, C.R.S. § 39-3-123, C.R.S.

****** Exemption initially must be granted and then be reviewed annually by the Property Tax Administrator. Any questions regarding these exemptions should be directed to the Division of Property Taxation, Exempt Property Section.

VALUATION FOR ASSESSMENT

Appraisal of the current actual value of personal property is described in **Chapter 3, Valuation Procedures**.

LEVEL OF VALUE

The current actual value of personal property as of the assessment date must be adjusted to the level of value in effect for real property as required by §§ 39-1-104(10.2)(a) and (12.3)(a)(I), C.R.S.

The Division publishes adjustment factors to adjust the actual value of personal property to the level of value applicable for real property. The adjustment factors are found in **Chapter 4, Personal Property Tables**.

The assessor must use these adjustment factors to adjust all personal property valuations to the correct level of value as required by § 39-1-104(12.3)(a)(I), C.R.S.

ASSESSMENT RATE

In Colorado, the assessor must determine valuations for assessment, or assessed values. Assessed values are calculated using a percentage, i.e. an assessment rate. The property's actual value multiplied by the appropriate assessment rate results in assessed value.

The assessment rate for most property, including personal property, (but excluding residential real property, oil and gas leaseholds and lands, and producing mines) is 29 percent as required by section 3(1)(b) of article X of the Colorado Constitution.

SUSPICION OF REMOVAL

If at any time the treasurer believes that taxable personal property may be removed, dissipated, or distributed so that the taxes would not be collectible, the treasurer may immediately collect the taxes on such property. Upon request of the treasurer, the assessor must certify the current year's valuation of personal property that is under suspicion of removal as required by § 39-10-113(1)(a), C.R.S. If the mill levy for the current year has not been fixed and made, the mill levy for the previous year shall be used to determine the amount of taxes due.

VALUATION CERTIFICATION

The assessor has responsibilities concerning the certification of various values. These assessor responsibilities include the following:

1. Certification of values, including personal property values, to the taxing entities and the Division of Local Government as required by §§ 39-5-128(1), 39-5-121(2), and 39-1-111(5), C.R.S.
2. Certification of the value associated with personal property that the treasurer believes may be removed or transferred prior to payment of personal property taxes as required by § 39-10-113, C.R.S.
3. Delivery of the tax warrant as required by § 39-5-129, C.R.S.

TAX WARRANT

As soon after the taxes have been levied, but not later than January 10, the assessor must deliver the tax warrant to the county treasurer. The tax warrant is a public document and must be available for inspection by the public in the assessor's office.

The tax warrant contains the assessment roll which is a listing of the names of all taxpayers in the county, the class of their taxable property, its assessed valuation, the taxes levied against the property and the total amount of all property taxes levied in the county. The treasurer is required to collect all taxes listed in the tax warrant by § 39-5-129, C.R.S.

TAXPAYER'S RESPONSIBILITIES

The personal property owner has several statutory duties in the valuation and assessment of personal property. These range from the submission of the annual personal property declaration schedule, as required by § 39-5-108, C.R.S., to the final payment of the personal property taxes levied against the property as required by §§ 39-10-102 and 103, C.R.S. Taxpayers' statutory duties and requirements are referred to in the paragraphs below.

SUBMITTING THE PROPERTY DECLARATION SCHEDULE

The primary responsibility of the taxpayer is the submission of information regarding the taxpayer's property to the assessor. These responsibilities may be categorized into the following:

- Completion and submission of the declaration schedule
- Submission of additional information pertinent to the valuation of the property

The statutes describe filing requirements for both personal and real property taxpayers.

PERSONAL PROPERTY FILING REQUIREMENTS

Taxpayers owning more than \$2,500 in total actual value of personal property per county are required to complete and return the DS 056, Personal Property Declaration Schedule, to the assessor no later than April 15 of each year. The taxpayer must provide a list of all property owned or in the taxpayer's possession or under the taxpayer's control as of January 1. The property must be described in sufficient detail for the assessor to make a valuation as required by §§ 39-5-107, 108, 114, and 39-5-110(1), C.R.S.

Taxpayers may request an extension of ten or twenty days for filing the personal property declaration schedule. Any requests for extension must be made in writing by April 15. The fee for extension is two dollars per day for the number of days requested (\$20 or \$40), regardless of the number of schedules to be filed by the taxpayer as required by § 39-5-116, C.R.S.

Taxpayers may file a listing of leasehold improvements to real property owned by them rather than the lessor as permitted by § 39-5-102(1), C.R.S.

The Personal Property Declaration Schedule and any attachments to it are private, confidential documents as required by § 39-5-120, C.R.S.

FAILURE TO SUBMIT THE DS 056

When the taxpayer fails to return a declaration schedule required by statute by April 15, or if no request for extension was filed, or if the declaration is submitted after the last day of the extension period, the assessor shall impose a late filing penalty of 15 percent of the taxes due or \$50, whichever is less, pursuant to § 39-5-116, C.R.S.

The failure of the assessor to receive a declaration schedule required by statute does not invalidate an assessment based upon the "Best Information Available." Assessors may make valuations based upon the "Best Information Available" (BIA) as permitted by §§ 39-5-116 and 118, C.R.S. In Property Tax Administrator v. Production Geophysical et al., 860 P. 2d 514 (Colo. 1993), abatements for BIA values in excess of what should have been reported, had the taxpayer filed a declaration schedule, were disallowed.

However, if the following conditions are met, the taxpayer retains the right to file an abatement petition pursuant to § 39-10-114(1)(a)(I)(D), C.R.S.:

1. The taxpayer must have withdrawn from or failed to further pursue the available personal property protest and appeal remedies.
2. The assessor must have mailed a notice of determination concerning the protest.
3. The assessor must have performed an audit of the taxpayer's personal property that indicates an overvaluation of the property.

A complete discussion of BIA assessments is found in **Chapter 3, Valuation Procedures**.

FAILURE TO FULLY AND COMPLETELY DISCLOSE

A taxpayer who owns more than \$2,500 in total actual value of personal property per county fails to make full and complete disclosure if the taxpayer submits information on the declaration schedule that is false, erroneous, or misleading or fails to include all personal property owned by the taxpayer as described in § 39-5-116(2), C.R.S.

If any such taxpayer, to whom one or more declaration schedules have been mailed or upon whom the assessor has called and left one or more schedules, fails to complete and return a personal property declaration schedule to the assessor by the next April 15, the assessor shall impose a late filing penalty of fifty dollars or, if a lesser amount, fifteen (15) percent of the amount of tax due on the valuation for assessment determined for the personal property for which any delinquent schedule or schedules are required to be filed, as provided for in § 39-5-116(1), C.R.S.

If any taxpayer, to whom two successive declaration schedules have been mailed or upon whom the assessor has called and left one or more schedules, fails to make a full and complete disclosure of personal property, the assessor shall apply a late filing penalty as provided for in § 39-5-116(1), C.R.S., and upon discovery, determine the actual value of such undisclosed property on the basis of the "Best Information Available" (BIA).

When, after the BIA assessment has been determined, a complete rendition of such property is made and in the event the BIA value omitted the actual value of certain items of personal property, the assessor may impose a penalty of not more than 25 percent of the assessed value of the omitted property by adding this penalty valuation to the total assessed value of the property as provided for in § 39-5-116(2), C.R.S.

This penalty valuation will ultimately be multiplied, along with the assessed value of the personal property, times the current year's mill levy for property tax collection the following year. A penalty valuation can be applied only once, i.e. when it is discovered that the taxpayer failed to make a full and complete disclosure of specific items of omitted property. It is the assessor's responsibility to identify these omitted items and their assessed value in the event of a taxpayer appeal of the penalty valuation.

The assessor must notify the taxpayer of the failure to make full and complete disclosure and allow the taxpayer ten days from the date of notification to comply as required by § 39-5-116, C.R.S. Additionally, the percentage of omitted assessed value applied as a penalty should be documented as county policy and applied consistently throughout the county.

Further information on full and complete disclosure is found in **Chapter 3, Valuation Procedures**.

DECLARATION SCHEDULE INFORMATION

The Division recommends when taxpayers make a full and complete disclosure, especially for their first filing to the assessor, they submit a complete itemized list of all personal property owned by them, in their possession, or under their control on the assessment date. The information submitted by the taxpayer should include the following:

- Whether Property is New or Used (year of manufacture, if known)
- Year Acquired, and Cost Data
- Market and Income Data (if available)
- Apportionment Data
- Proration Data

Year Acquired and Cost Data

The year of acquisition and original installed cost are very helpful to the assessor in valuing personal property using the cost approach. The information for year acquired and original installed cost may be available from the taxpayer's financial records. Procedures for acquiring cost information required by the assessor from the taxpayer are found in **Chapter 2, Discovery, Listing, and Classification**.

Market and Income Data

Market Data:

The taxpayer may submit market information, or comparable sales information, if it is available. Under § 39-5-115(1), C.R.S., the assessor may request market information from the taxpayer. However, if the taxpayer does not regularly buy and sell property in the equipment marketplace, no market data may be forthcoming. The failure of the taxpayer to submit market information does not excuse the assessor from gathering market data where it does exist, nor from giving appropriate consideration to the market approach.

Refer to **Chapter 3, Valuation Procedures** for the procedures used by assessors to complete the market approach.

Income Data:

When the income stream attributable to the personal property can be determined, the taxpayer should submit income and expense information to the assessor. The largest subclass of personal property subject to valuation by the income approach is leased or rented equipment.

Section I of the DS 056 declaration schedule provides a place for taxpayers to file income information for leased equipment.

Under § 39-5-115, C.R.S., the assessor may request income and expense information from the taxpayer. However, if the taxpayer does not regularly rent or lease personal property, no income data may be forthcoming. Actual income data submitted by taxpayers is used by assessors to establish the economic rent of equipment. This economic rent may be applied to all similar equipment in order to determine value by the income approach. Refer to **Chapter 3, Valuation Procedures** for the procedures used by assessors to complete the income approach. The failure of the taxpayer to submit income and expense information does not excuse the assessor from gathering income data where it does exist, nor from giving appropriate consideration to the income approach.

Apportionment of Personal Property Valuation

Several situations require the apportionment, or division, of personal property value between two or more counties. The value of movable or portable equipment owned by a business that is typically used in more than one county during a year must be apportioned among those counties as required by § 39-5-113, C.R.S. This movable or portable personal property apportionment does not apply to special mobile machinery that is Class F personal property. Class F personal property is subject to specific ownership tax, in lieu of personal property taxes, as required by section 6 of article X of the Colorado Constitution.

Also, skid mounted oil and gas drilling rigs are subject to apportionment of their value according to their locations during the previous calendar year as required by § 39-5-113.5, C.R.S. This does not include self-propelled drilling rigs that are Class F personal property. No apportionments of personal property, other than those described below, are allowed. Specific procedures and examples for the apportionment of values are found in **Chapter 7, Special Issues**.

Movable or Portable Equipment:

Owners of movable or portable equipment, which in the ordinary course of business is likely to be located in more than one county during the current assessment year, must provide the assessor with the following information as required by § 39-5-113, C.R.S. This type of equipment does not include skid-mounted oil and gas drilling rigs.

1. Description of the equipment
2. Serial number of the equipment
3. Counties in which such equipment will be located during the year
4. Estimated number of days that the property will be located in each county

The specific procedures for the apportionment of movable equipment are found in **Chapter 7, Special Issues**.

Skid Mounted Oil and Gas Drilling Rigs:

Taxpayers owning skid mounted oil and gas drilling rigs, which operated in the state during the previous calendar year, must submit the following information to the assessor as required by § 39-5-113.3, C.R.S.:

- Descriptions of all such drilling rigs located in each county during the preceding calendar year
- Drilling logs for each rig, describing the locations in the state where the rig was used and the number of days that it was used at each location
- An inventory of the rig's equipment, sufficient to determine a value, must be submitted to the first county in the state in which the rig was located

The specific procedures for the apportionment of skid mounted oil and gas drilling rigs are found in **Chapter 7, Special Issues**.

The repeal of personal property prorations described below does not affect the apportionment of movable equipment as provided for in § 39-5-113, C.R.S.; the apportionment of skid mounted oil and gas drilling rigs as provided for in § 39-5-113.3; or the proration of Works of Art as provided for in § 39-5-113.5, C.R.S. Movable equipment can only be valued for the days it is traveling in or was located within Colorado. Skid mounted drilling rigs can only be valued for the days they were traveling in, were operating within, or were stacked within Colorado.

Proration of Personal Property Valuation

Proration means the proportional valuation of property for assessment purposes based upon the number of days that the property is taxable compared to the full calendar year. As of January 1, 1996, the only proration of personal property that is allowed under Colorado statutes is for Works of Art as defined in § 39-1-102(18), C.R.S., and as described in **Chapter 7, Special Issues**. If other taxable personal property was located in Colorado on the assessment date, it is taxable for the entire assessment year, providing that, if it was newly acquired, it was put into use as of the assessment date. If it was not put into use as of the assessment date, it cannot be taxed until the next assessment year.

Personal property is valued as of the assessment date and is valued for the entire year regardless of any destruction, conveyance, relocation, or change in taxable status, § 39-5-104.5, C.R.S. Personal property removed during the assessment year is taxable for the entire year, § 39-5-104.5, C.R.S. Whenever taxable personal property is brought into the state after the assessment date, the taxpayer must complete a personal property declaration and file it with the assessor if the total actual value of all of the taxable personal property owned by the taxpayer is over \$2,500 per county, § 39-5-110, C.R.S. The owner of any taxable personal property removed from the state is liable for the entire tax obligation, § 39-5-110(2), C.R.S.

Except for the proration of Works of Art and except for movable equipment and skid mounted oil and gas drilling rigs both of which are apportioned, personal property exempt on the assessment date retains its exempt status for the entire assessment year. These requirements do not affect the proration of real property.

If proration of personal property value is not specifically allowed by statute, no proration may be applied. Procedures and an example for the proration of Works of Art changing taxable status are found in **Chapter 7, Special Issues**.

Collection of Taxes on Property Moving Out of One County to Another

It is common practice for the treasurer to collect estimated taxes on personal property, for the entire year, if it is to be moved to another county within the state. This is due to the following reasons:

- There is no statutory provision to prorate or apportion the value of this property.
- There is no statutory provision to reassess this property on its arrival to the next county.
- The treasurer cannot be certain that once the property leaves the county it will remain in the state. Once personal property leaves the state, collection of taxes can be virtually impossible.

ADDITIONAL INFORMATION

The assessor may request additional information from the taxpayer at any time before or after April 15. The taxpayer must furnish the information requested by the assessor as required by § 39-5-115, C.R.S.

If any taxpayer refuses to furnish information to the assessor or refuses to be interviewed or answer questions asked by the assessor, the assessor may petition the district court to cite the taxpayer. The court may, at its discretion, require the taxpayer to furnish such information as requested by the assessor as controlled by § 39-5-119, C.R.S.

TAXPAYER APPEALS PROCEDURES

Owners of taxable personal property are given many opportunities to have their personal property valuations reviewed and appealed. The steps necessary for proper review and appeal are commonly referred to as "taxpayers' administrative remedies." These steps must be adhered to by both the assessor and taxpayer to ensure the taxpayer's statutory due process rights. It is the taxpayer's responsibility to initiate and pursue these administrative remedies. The assessor must make every attempt to inform the taxpayer of the methods used to value the personal property as required by § 39-5-121.5, C.R.S.

A complete discussion of the rights of the taxpayer and the steps of the administrative appeals procedure are found in **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES MANUAL, Chapter 5, Taxpayer Administrative Remedies.**

The specific sequence of events and the statutory references for owners of personal property are found in the assessment calendar in **Addendum I-A, Personal Property Assessment Calendar.**

NOTICE OF VALUATION

The administrative remedies process starts with the mailing of the Notice of Valuation (NOV), which lists the previous year's total actual value, the current year's total actual value and the amount of such adjustment in value. The NOV's for personal property are mailed no later than June 15th.

Pursuant to section 20(8)(c) of article X of the Colorado Constitution, NOV's must be mailed by the assessor to each personal property owner every year. It is the taxpayer's responsibility to review the NOV and pursue the following administrative remedies if the taxpayer disagrees with the value assigned to the personal property by the assessor.

ASSESSOR HEARING

To receive a hearing before the assessor between June 15 and July 5, the owner or the owner's agent must file a protest with the assessor. The taxpayer may contact the assessor in person or in writing and request a review. All mailed protests are considered timely filed if they are postmarked by June 30, or the next business day if June 30 falls on a holiday or weekend. All protests made in person are timely filed if they are made no later than July 5, or the next business day if July 5 falls on a holiday or weekend, as controlled by § 39-5-121(1.5), C.R.S.

Whenever possible, the owner of the personal property must contact the assessor. If a representative or agent is used by the owner, a letter of authorization or other document that conveys agency authorization from the owner or the owner's authorized agent must be obtained.

Owners acquiring personal property after January 1 of the current assessment year have the right to file a protest of the value the assessor has assigned to the newly acquired personal property. In such cases, the assessor should schedule a physical inspection of the property as soon as possible and use the list of property obtained during the inspection to determine its correct actual value.

Any written protest or objection to valuation received during the protest period must be answered with a Notice of Determination. The assessor must respond in writing to any personal property protest no later than July 10. Justification for the assessor's decision must be included as required by § 39-5-122, C.R.S.

APPEAL OF COUNTY ASSESSOR'S DETERMINATION TO CBOE

If a taxpayer is not satisfied with the assessor's valuation determination and the taxpayer files an appeal to the County Board of Equalization (CBOE), either in a letter postmarked or by appearing in person no later than July 20, the right to an appeal before the CBOE is guaranteed. If July 20 falls on a holiday or weekend and the letter is postmarked or the taxpayer appears in person the next business day, an appeal before the CBOE also is guaranteed.

Beginning on July 1, the CBOE will sit to hear appeals from value determinations made by the assessor. The taxpayer must be notified of these hearings, must be given the opportunity to attend, and must be allowed to present witnesses and other evidence. The CBOE must conclude hearings and render value decisions on or before August 5th and must mail their determination within five business days of making their decision. The assessor or a representative of the assessor shall be present at hearings on appeal as required by § 39-8-104, 106 and 107, C.R.S.

APPEAL OF THE CBOE'S VALUATION DETERMINATION

Valuation determinations made by the CBOE may be appealed by the taxpayer in one of three ways.

Arbitration Process

The taxpayer may choose to use the binding arbitration procedure instead of appealing to the BAA or to the district court. No appeals from the decision of the arbitrator are permitted pursuant to §§ 39-8-108(4) and 108.5, C.R.S.

Specific arbitration procedures may be found in the **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES MANUAL, Chapter 5, Taxpayer Administrative Remedies** or may be obtained from the county commissioner's office in each county.

Board of Assessment Appeals

When taxpayers disagree with the decision of the CBOE, they may file an appeal with the Board of Assessment Appeals (BAA). The hearing is a de novo hearing meaning that it is a new hearing based upon evidence submitted at the hearing. The CBOE and the taxpayer both present cases for the record before the BAA pursuant to § 39-8-108(1), C.R.S.

District Court

The taxpayer may appeal the decision of the CBOE to the district court of the county wherein the property is located. The hearing before the district court is a trial de novo and each party must present its case for the record as required by § 39-8-108(1), C.R.S.

Court of Appeals

If the petitioner has appealed to the Board of Assessment Appeals and the decision is against the petitioner he may, not later than 45 days after the decision, petition the court of appeals for judicial review.

If the petitioner has appealed to the district court and the decision is against the petitioner, the petitioner may seek review by the court of appeals upon filing for such review according to the Colorado appellate rules as controlled by §§ 39-8-108(3) and 24-4-106(9), C.R.S.

See September listings for county appeal rights in **Addendum I-A, Personal Property Assessment Calendar**.

ABATEMENT OR REFUND

Taxpayers who do not exercise the statutory rights listed above may petition for a change in valuation through the abatement or refund procedure. Abatements may be granted in cases of overvaluation as allowed by §§ 39-10-114(1)(a)(I)(A) and (D), C.R.S., but cannot be granted if the valuation was protested during the assessment year in question, or if the declaration was not filed pursuant to §§ 39-5-107 and 108, C.R.S. However, if the following conditions are met, the taxpayer retains the right to file an abatement petition pursuant to § 39-10-114(1)(a)(I)(D), C.R.S.:

1. The taxpayer must have withdrawn from or failed to further pursue the available personal property protest and appeal remedies, and
2. The assessor must have mailed a notice of determination concerning the protest, and
3. The assessor must have performed an audit of the taxpayer's personal property that indicates an overvaluation of the property.

REFUND OF INTEREST

With two exceptions, interest accrues from the date the taxes are paid pursuant to § 39-10-114(1)(b), C.R.S.

1. Refund interest is not included in a refund of prior years' taxes in cases involving an error made by a taxpayer in completing personal property schedules pursuant to article 5 of title 39, C.R.S.
2. Regarding refunds involving errors or omissions made by a taxpayer in completing statements pursuant to article 7 of title 39, C.R.S., interest accrues from the date a complete abatement petition is filed if the county pays the refund within the timeframe described in § 39-10-114(1)(a)(I)(B), C.R.S., which could be as long as the payment of property taxes for the year the final determination is made. For example, the taxes for property tax year 2003 are due in 2004. The refund on a petition on which the decision to approve occurs in 2003 could be paid in 2004 after consultation with the affected taxing entities.

Abatement, cancellation of taxes.

(1)(b) Any taxes illegally or erroneously levied and collected, and delinquent interest thereon, shall be refunded pursuant to this section, together with refund interest at the same rate as that provided for delinquent interest set forth in section 39-10-104.5; except that refund interest shall not be paid if the taxes were erroneously levied and collected as a result of an error made by the taxpayer in completing personal property schedules pursuant to the provision of Article 5 of this title. Said refund interest shall accrue only from the date payment of taxes and delinquent interest thereon was received by the treasurer from the taxpayer; except that refund interest shall accrue from the date a complete abatement petition is filed if the taxes were erroneously levied and collected as a result of an error or omission made by the taxpayer in completing the statements required pursuant to the provisions of article 7 of this title and the county pays the abatement or refund within the time frame set forth in sub-subparagraph (B) of subparagraph (I) of paragraph (a) of this subsection (1). Refund interest on abatements or refunds made pursuant to the sub-subparagraph (F) of subparagraph (I) of paragraph (a) of this subsection (1) shall only accrue on taxes paid for the two latest years of illegal or erroneous assessment. (emphasis added)

§ 39-10-114, C.R.S.

A discussion of the abatement procedure is found in **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES MANUAL, Chapter 5, Taxpayer Administrative Remedies.**

COLORADO STATE TAX REFUND FOR BUSINESSES PROGRAM

(Based on Personal Property Tax Timely Paid)

In 2000, the Colorado Legislature enacted House Bill 00-1145 to refund excess tax revenues to qualified personal property taxpayers. In 2001, the Colorado Legislature passed House Bill 01-1287, which amended the original 2000 legislation. Based on the legislation any taxpayer that paid business personal property tax qualifies for a tax refund. However, the refund is only issued during years in which the State Controller certifies that state revenues exceed the fiscal limitations imposed by TABOR by one hundred seventy million dollars or more.

Section 39-22-124(4.5), C.R.S., states:

Tax credit against state taxes

(4.5) The amount of the credit against state taxes to be refunded under this section during any state fiscal year commencing on or after July 1, 2001, for each qualified taxpayer shall be an amount equal to:

(a) Sixteen percent of the aggregate amount of personal property tax paid by the qualified taxpayer to all taxing jurisdictions in the state fiscal year immediately preceding the state fiscal year in which the credit is refunded; plus

(b) Except as otherwise provided in subparagraph (III) of paragraph (b) of subsection (5) of this section, the lesser of eighty-four percent of the aggregate amount of personal property tax paid by the qualified taxpayer to all taxing jurisdictions in the immediately preceding state fiscal year or five hundred eighty-eight dollars.

§ 39-22-124, C.R.S.

The maximum refund will be automatically sent out by the Colorado Department of Revenue by November 30 provided that the taxpayers have included their Federal Employer's Identification Number (FEIN) or Social Security Number (SSN) on the personal property declaration schedule filed with the county assessor. If taxpayers have not provided the county assessor with their FEIN or SSN but they have timely paid their personal property taxes, they will automatically receive the minimum refund of 16 percent of personal property taxes paid.

For taxpayers providing their FEIN or SSN on the declaration schedule filed with the county assessor, the amount of the rebate will be calculated as follows:

100 percent of the first \$700 paid by the personal property taxpayer, plus
16 percent of the amount remaining above \$700.

If the taxpayer has paid less than \$700 in taxes, a refund for the entire amount paid will be issued.

There are specific requirements that must be met to receive the refund. There are also appeal procedures enacted by HB01-1287 for taxpayers that believe the amount they were refunded was incorrect. Please access the Department of Revenue website at www.taxcolorado.com or call (303) 238-7378 for additional information.

This page left blank intentionally

ADDENDUM I-A, PERSONAL PROPERTY ASSESSMENT CALENDAR

<u>DATE</u>	<u>ACTIVITY</u>	<u>COLORADO REVISED STATUTE</u>
JANUARY		
<u>January 1</u> , Noon	Assessment date for all taxable property.	§ 39-1-105
<u>January 1</u> , Noon	Lien of general taxes for current year attaches.	§ 39-1-107
<u>January 1</u>	Property taxes for the prior year become due and payable. Optional payment dates are: April 30, full payment; the last day in February and June 15, half-payments	§ 39-10-102(1)(b)(I) § 39-10-104.5
As soon after <u>January 1</u> as practicable	Assessor mails or delivers two personal property schedules.	§ 39-5-108
Not later than <u>January 10</u>	Assessor delivers tax warrant to treasurer.	§ 39-5-129
APRIL		
Prior or subsequent to <u>April 15</u>	Assessor may require additional information from owners of taxable property.	§ 39-5-115
Not later than <u>April 15</u>	Taxpayers return personal property schedules to assessor, including works of art display statement.	§ 39-5-108 § 39-5-113.5(1)
Not later than <u>April 15</u>	Taxpayers may request extension of 10 or 20 days for filing personal property schedule.	§ 39-5-116(1)
Not later than <u>April 15</u>	Owners and operators of producing mines file statement with the assessor.	§ 39-6-106
Not later than <u>April 15</u>	Owners and operators of oil and gas leaseholds file statement with assessor.	§ 39-7-101
Subsequent to <u>April 15</u>	Assessor determines personal property values from best information available and imposes a penalty for taxpayers failing to file.	§ 39-5-116

<u>DATE</u>	<u>ACTIVITY</u>	<u>COLORADO REVISED STATUTE</u>
MAY		
On or before <u>May 1</u>	Assessor gives public notice of hearings on real and personal property.	§ 39-5-122(1)
JUNE		
Not later than <u>June 15</u>	Assessor sends notice of valuation, together with a protest form, for personal property, drilling rig valuations, and valuation of producing and nonproducing mines and oil and gas leaseholds and lands to taxpayer.	Article X, Section 20, Colorado Constitution § 39-5-121(1.5) § 39-6-111.5 § 39-5-113.3(2) § 39-7-102.5
Beginning on <u>June 15</u>	Assessor sits to hear all objections concerning personal property and valuation of producing and nonproducing mines and oil and gas leaseholds and lands valuation	§ 39-5-122(1) § 39-6-111.5 § 39-7-102.5
Not later than <u>June 30</u>	Taxpayer mails notice of personal property protest and protests of the valuation of producing and nonproducing mines and oil and gas leaseholds and lands to assessor. (Postmarked no later than June 30)	§ 39-5-121(1.5) § 39-6-111.5 § 39-7-102.5 § 39-5-122
JULY		
Prior to <u>July 1</u>	County board of equalization publishes notice of sitting to review assessment roll and hear appeals on real and personal property valuations.	§ 39-8-104
Beginning on <u>July 1</u>	County board of equalization sits to hear appeals on real and personal property valuations.	§ 39-8-104
By <u>July 5</u>	Assessor concludes personal property hearings.	§ 39-5-122(4)
Not later than <u>July 5</u>	Taxpayer notifies assessor in person of personal property protest.	§ 39-5-121(1.5) § 39-5-122
On or before <u>July 10</u>	Assessor mails two copies of the notice of determination of protests for valuation of personal property, producing and nonproducing mines, and oil and gas leaseholds and lands to taxpayer.	§ 39-5-122(2) § 39-5-113.3(2) § 39-6-111.5 § 39-7-102.5

<u>DATE</u>	<u>ACTIVITY</u>	<u>COLORADO REVISED STATUTE</u>
<u>July 15</u>	Assessor reports to county board of equalization the assessed value of all taxable personal property in the county, movable equipment that was apportioned with other counties, a list of all people who failed to file a declaration schedule and the action in each case, and a list of all personal property protests and the action in each case.	§ 39-8-105(2)
On or before <u>July 20 of that year</u>	Taxpayer mails one copy of assessor's determination of the protest of personal property, producing and nonproducing mines, and oil and gas leaseholds and lands valuation to county board of equalization. Protests bearing postmarks on or before this date constitute proper filing.	§ 39-8-106(1)(a) § 39-6-111.5 § 39-7-102.5
AUGUST		
Not later than <u>August 5 of that year</u>	County board of equalization concludes hearings and renders decisions on real and personal property appeals.	§ 39-8-107(2)
<u>Within five business days of rendering decision</u>	County board of equalization mails decisions on real and personal property appeals.	§ 39-8-107(2)
Not later than <u>30 days</u> after decision of county board of equalization is mailed	Appeals from county board of equalization decisions must be filed with Board of Assessment Appeals, district court, or the county commissioners for a binding arbitration hearing.	§ 39-8-108(1)
Not later than <u>August 25</u>	Assessor transmits abstract to Administrator. Assessor reports assessed value in the county, each municipality, and each school district by class and subclass on form prescribed by the Administrator. Assessor also reports the assessed value of new construction, destroyed property, and net change in volume of minerals and oil and gas production. (For counties that elect to use the alternate appeals procedure, the deadline is November 21.)	§ 39-2-115(1)(a) § 39-5-123

<u>DATE</u>	<u>ACTIVITY</u>	<u>COLORADO REVISED STATUTE</u>
Not later than <u>August 25</u>	Assessor notifies each taxing entity, the Division of Local Government, and the Department of Education of the total assessed value of real and personal property within the entity, and the exceptions to the 5.5 percent property tax revenue limitation. (See 39-5-121(2)(a), C.R.S., for specifics.)	§ 39-5-121(2)(a) § 39-5-128(1)
SEPTEMBER		
Not later than <u>September 1</u>	Treasurer provides the assessor the required data for all qualified taxpayers who were required to report personal property, including state assessed companies. (This information is required <u>only</u> if state revenues are in excess of the fiscal limitations imposed by TABOR by \$170 million or more.)	§ 39-22124(5)(b)(II)(A)
<u>September 15</u>	Final report of the annual valuation for assessment study is submitted to the General Assembly and the State Board of Equalization.	§ 39-1-104(16)(a)
Not later than <u>45 days</u> after decision of Board of Assess- ment Appeals	Taxpayer appeals to court of appeals.	§ 39-8-108(2) § 24-4-106(11)
Not later than <u>45 days</u> after decision of Board of Assess- ment Appeals	County appeals to court of appeals. (if BAA recommends that its decision is a matter of statewide concern or has resulted in a significant decrease in the assessed valuation of the county)	§ 39-8-108(2) § 24-4-106(11)
Not later than <u>30 days</u> after decision of Board of Assess- ment Appeals	County appeals to court of appeals. (if judicial review is sought for alleged procedural errors or errors of law)	§ 39-8-108(2)
Not later than <u>30 days</u> after decision of Board of Assess- ment Appeals	County appeals to court of appeals. (if BAA makes no recommendation on statewide concern or there is no significant valuation decrease as a result of the BAA decision)	§ 39-8-108(2)

<u>DATE</u>	<u>ACTIVITY</u>	<u>COLORADO REVISED STATUTE</u>
Not later than <u>30 days</u> after final decision of Property Tax Administrator	Appeals from orders and decisions of the Administrator must be filed with Board of Assessment Appeals.	§ 39-2-125(1)(b)(I)
OCTOBER		
Not later than October 1	Assessor provides the Department of Revenue the required data for all qualified taxpayers who were required to report personal property, including state assessed companies. The assessor is not required to provide this data if the treasurer furnishes the data directly to the Department of Revenue. (This information is required <u>only</u> if state revenues are in excess of the fiscal limitations imposed by TABOR by \$170 million or more.)	§ 39-22-124(5)(b)(I)(A)
NOVEMBER		
Not later than November 21	Assessor transmits abstract to Administrator. Assessor reports assessed value in the county, each municipality, and each school district by class and subclass on form prescribed by the Administrator. Assessor also reports the assessed value of new construction, destroyed property, and net change in volume of minerals and oil and gas production. (For counties that elect to use the alternate appeals procedure.)	§ 39-5-123
DECEMBER		
Prior to <u>December 10</u>	Assessor transmits a single notification to board of county commissioners, other taxing entities, Division of Local Government and the Department of Education if value changes were made after August 25 certification of values.	§ 39-1-111(5)

This page left blank intentionally.

CHAPTER 2

DISCOVERY, LISTING, AND CLASSIFICATION

Three administrative steps must be taken by the assessor prior to determining the value of personal property. These steps are discovery of previously unlisted personal property, creation of an accurate listing of taxable personal property items, and proper classification of the property. The assessor must ensure that effective office procedures exist to complete these steps, so that all taxable property will be properly assessed for property tax purposes.

DISCOVERY AND LISTING OF PERSONAL PROPERTY

One of the most difficult jobs for a county assessor is the discovery of personal property. However, good discovery practices will yield positive results in accurate property records and assessments.

OVERVIEW

Personal property discovery must be an ongoing task because personal property is movable and may leave the county faster than the assessor can discover it. A thorough program of discovery must be created and maintained to ensure accurate property listings. Inaccurate property listings mean that certain personal property owners may escape paying their property taxes which results in a heavier tax burden on the taxpayers who do pay.

The personal property listing process begins by setting up account records in the assessor's office for businesses owning taxable personal property. A check should be made against existing office records to determine if a new business is filing under another name and/or at another location. An assessor's staff member should call or visit the property owner to gather any necessary information for this listing process.

DECLARATION SCHEDULE

A primary source of personal property discovery is the annual declaration schedule. After the names of the businesses or owners have been recorded in the personal property account records, two declaration schedules are mailed.

It is especially important that owners of personal property located in the county on the January 1 assessment date receive the declaration schedules as soon after January 1 as possible. As noted in **Chapter 1, Applicable Property Tax Laws**, each person who owns more than \$2,500 in total actual value of personal property per county on the assessment date must file a declaration schedule no later than April 15. This allows the mailing of a Notice of Valuation to these taxpayers by June 15.

However, a Special Notice of Valuation can be mailed at any time during the year. In this way the assessor preserves the rights of the taxpayer in the appeals process and presents a complete assessment roll to the County Board of Equalization in July.

In cases where property was in the county on the assessment date, but discovered after April 15, the assessor must still assess the property pursuant to §§ 39-5-110(1) and 125, C.R.S. It is Division policy that, in these cases, the taxpayer must be notified of the value via the Special Notice of Valuation and a thirty-day period must be given to the taxpayer to protest any personal property valuation made after June 15.

In addition to being a major discovery tool available to the assessor, the declaration schedule is the primary method used by the taxpayer to provide an original listing of personal property to the assessor. The taxpayer who owns more than \$2,500 in total actual value of personal property per county must report all personal property owned by, in the possession of, or under the control of the taxpayer on January 1 to the assessor.

Property that is fully depreciated, but still is used in the business must be declared and listed as owned by the taxpayer. Property acquired prior to the January 1 assessment date, but not put into use until after January 1, should be declared for the following assessment year. For a complete discussion of "Assets in Storage" that have been stored after their use, refer to **Chapter 7, Special Issues**. Property leased from others and used in the business must be declared and the name and address of the lessor noted in the leased equipment area on the declaration schedule.

The taxpayer must completely describe all listed personal property so that the assessor can correctly classify and value it. The importance of accurate, detailed property descriptions cannot be overstated. The assessor cannot properly consider the cost, market, or income approaches to appraisal unless a very clear description has been obtained. General property descriptions such as "equipment" or "furniture and fixtures" are not acceptable because they do not sufficiently describe the property.

Information contained on the declaration schedules is often transferred directly to the appraisal records for analysis. The declaration schedule then becomes a part of the taxpayer's permanent account valuation file.

RECORDED DOCUMENTS AND OTHER DISCOVERY SOURCES

Publicly recorded documents, such as real estate deeds, may also be useful in discovering personal property. Any evidence, such as notations on the TD-1000 real property transfer declaration or sales/use tax records from the Department of Revenue, which may be submitted to the clerk and recorder as proof of personal property that is included in a real property sale, can be used in the discovery process pursuant to §§ 39-13-102(5)(a) and 39-14-102, C.R.S.

Leases and bills of sale are useful in helping the assessor to discover personal property. These documents often will list specific pieces of property leased or sold from which the assessor can make an assessment even if the taxpayer does not file a declaration schedule. Leases may be recorded in the county clerk's office.

There are several other sources of information for the assessor to use in the discovery of personal property:

Federal Government Records

Bankruptcy filings
Lease records

State Government Records

Business licenses (sales/use tax)
Corporation filings
Trade name affidavits
State lease records

Local Government Records

Business licenses (city or county)
Permits (sign or building)
Lease records
Recorded real property conveyance documents for new owner/operators

Business Records and Publications

Business (City) or personal directories
Telephone directories
Trade journals
Utility hookups or disconnects

Media Sources

Newspaper articles and advertising
Radio and TV commercials
Real estate newsletters

Other

Location inspections, taxpayer visits, area canvasses
Voluntary filings by property owners

A complete discovery program uses all of these tools to find personal property that has not as yet been listed on the assessment roll. Most counties have an annual cycle in which one or more of these sources are reviewed, at different times of the year, to monitor any changes in the number of businesses or the locations of personal property.

OBTAINING DEPRECIATION INFORMATION

There is a provision in Colorado Revised Statutes that allows county assessors to obtain Colorado income tax returns for business taxpayers, including depreciation information, from the Colorado Department of Revenue (DOR).

Reports and returns.

(7) Notwithstanding the provisions of this section, the executive director of the department of revenue shall supply any county assessor of the state of Colorado or his representative with information relating to ad valorem tax assessments or valuation of property within his county and, in his discretion, may permit the commissioner of internal revenue of the United States, or the proper official of any state imposing a similar tax, or the authorized representative of either to inspect the reports and returns of taxes covered by this article.

(10) Notwithstanding the provisions of this section, the executive director of the department of revenue shall supply any county assessor of the state of Colorado or his representative with information obtained through audit of reports and returns covered by this article dealing with such taxpayers' ability to pay or to properly accrue any ad valorem tax collected by such county assessor.

§ 39-21-113, C.R.S.

Discussions with DOR representatives indicated the following procedures should be used by assessors in obtaining DOR tax return information.

1. Prepare a cover letter, on county letterhead, requesting under authority of §§ 39-21-113 (7) and (10), C.R.S., taxpayer income tax returns for the tax years under review by your office. Make sure that you include sufficient information about the tax years, taxpayer's name, trade name, location, etc., so that the DOR can locate the appropriate records.
2. Attach a DR 5714 (09/01) Request For Copy form completed by you to the best of your ability. Copies of this form can be directly obtained from the DOR website at www.taxcolorado.com.
3. Mail both the letter and the completed form to:
 Colorado Department of Revenue
 1375 Sherman Street
 Denver, Colorado 80261
 Copying cost: 1 – 20 Free, each additional page is \$.75.
 (303) 238-7378

NOTE: Please note that any tax return information you obtain from DOR must remain confidential in the same manner as the personal property declaration schedule and accompanying exhibits, pursuant to § 39-21-113(4), C.R.S.

OBTAINING NEW SALES TAX ACCOUNT LISTINGS

DOR makes available to the counties sales tax records of their vendors. Counties that impose a sales tax have access to this information through the DOR website “Local Government Sales Tax Information System.” This is a secured site and you will need to contact the county finance office to request any sales tax information.

For those counties that do not impose a sales tax, the DOR provides a monthly report of new sales tax accounts within their counties.

Information from the reports is considered confidential by DOR. The designated county officer must sign a Memorandum of Understanding On Confidential Data form developed by the DOR pledging to keep the data confidential except for county purposes. According to DOR representatives, this report cannot be shown to the general public or posted for public inspection.

This report appears to be a good preliminary discovery source of new businesses that are operating or plan to operate within the county. The county assessor should first attempt to find out which county official is receiving this report. If unsure, you can contact the Local Government Support Unit at localgovsupport@spike.dor.state.co.us. You can also access information from the DOR website at www.taxcolorado.com.

NOTE: Remember, any sales tax information you obtain from the DOR must remain confidential in the same manner as the personal property declaration schedule and accompanying exhibits, pursuant to § 39-21-113(4), C.R.S.

Review of Property Account Files and Records

All property declaration schedules, supporting data, and correspondence contained in the taxpayer's files should be carefully reviewed before the initial telephone call. Also, any previous performance analysis contained in the file should be reviewed. These reviews allow the assessor to become familiar with the business so that records relevant to past problems can initially be requested and so that appropriate questions regarding these records may be asked during the interview.

PHYSICAL INSPECTION

The physical inspection of property is another widely used tool in discovering and listing personal property. Physical inspection is fully discussed in **Chapter 5, Appraisal Performance Analysis**.

ASSESSOR RESPONSIBILITIES

The assessor has several responsibilities relative to the listing of personal property. The responsibilities are as follows:

- To provide declaration forms to taxpayers
- To use approved manuals, procedures, forms, and related data
- To maintain accurate records

PROVIDE DECLARATION FORMS

The assessor must provide two copies of the declaration schedule form to each taxpayer believed to own more than \$2,500 in total actual value of personal property per county. As described in the “**Discovery**” portion of this chapter, assessors attempt to discover all owners of personal property in the county so that the declaration schedules may be delivered. Taxpayers must still obtain and file a declaration schedule even if the assessor fails to send the schedules as required by §§ 39-5-107 and 108, C.R.S.

If desired, assessors have the option to mail out a declaration schedule to all personal property taxpayers. However, only when the total actual value of the personal property exceeds \$2,500 per county is the taxpayer required to return the completed declaration. A late filing or failure to fully disclose penalty cannot be applied unless the total actual value exceeds \$2,500 per county.

All county assessors will need to develop selection criteria for existing personal property accounts that in total will fall below the \$2,500 actual value threshold. Some suggestions for this criteria are:

1. Review of the last three years' (or five years') assessment roll to select those accounts that have consistently been below the \$2,500 threshold.
2. Review of selected accounts by business type:
 - a. Residential rental units (1-3 units)
 - b. Cottage industries and in-home businesses located in residences
 - c. Employees and contractors that work for a business but also file a separate declaration schedule for personal property they own and use in the business, e.g. computers, hand tools, personal furnishings, etc.
 - d. Other business types that generally have less than \$2,500 total actual value of personal property items per county.
3. Discussion with other assessors in your district.

USE APPROVED DATA

The assessor has the responsibility to use the approved manuals, procedures, and forms developed by the Division of Property Taxation as required by §§ 39-2-109(1)(d) & (e), C.R.S. Assessors must also consider any other pertinent data provided by the taxpayer to establish the total actual value of personal property as provided for in § 39-5-107, C.R.S.

Approved Manuals

The **ARL Volume 5, PERSONAL PROPERTY MANUAL**, is the approved manual to be used in the valuation of personal property. The manual contains all recommendations and procedures published by the Division of Property Taxation, as approved by the State Board of Equalization (SBOE), concerning the valuation of personal property.

Forms

Pursuant to § 39-2-109(1)(d), C.R.S., the Property Tax Administrator is required to approve the form and size of all personal property declaration schedules, forms, and notices furnished or sent by the assessor to owners of taxable property. Exclusive use of approved schedules, forms, and notices are required. This standardizes the information that is being requested statewide and provides for equal treatment of all taxpayers.

NOTE: County assessors may create customized or computerized county Personal Property Declaration Schedules and taxpayer notification forms if they have these forms approved by the Property Tax Administrator prior to their use.

Appraisal Records

Appraisal records are used by assessors for listing information from the declaration schedule submitted by the taxpayer and to determine the actual and assessed values of personal property.

The personal property appraisal record is a one-year value calculation worksheet for developing cost approach estimates for all machinery, equipment, and furnishings. The appraisal record provides for the determination of current replacement cost new less depreciation (RCNLD) and for adjusting the current value to the correct level of value. Computerized output documents may be used in lieu of the following manual form. The specific manual appraisal record used to list and maintain personal property cost information is as follows:

<u>Form No.</u>	<u>Description</u>
AR 290	Property Appraisal Record - 1 year form (Personal)

Additional documentation is required for application of the market and income approaches and reconciliation to a final value estimate. All appraisal records and appraisal documents should be initialed and dated by the assessor, the appraiser, or the data entry operator as appropriate and maintained as a part of the personal property valuation files.

Only personal property items are valued using the AR 290 personal property appraisal record. Real property items should be valued, and any related assessment records maintained, on appropriate real property appraisal records. Real and personal cross-reference indexes or files should be kept for those directly related real and personal property items. The index or file data should be reviewed annually to eliminate the possibility of duplicate or omitted assessments of property.

Notices of Valuation

The assessor must notify the taxpayers on approved Notices of Valuation (NOVs). The specific requirements and form standards for the NOV are found in **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES MANUAL, Chapter 9, Form Standards**.

MAINTAIN ACCURATE RECORDS

Accurate property appraisal files must be maintained for each personal property taxpayer. These files, and their associated records, serve as the permanent documentation for any assessments made by the assessor. The files are the repository of all information gathered by the assessor regarding the taxpayer and the taxpayer's property.

Files should include all declaration schedules and documents submitted by an individual taxpayer or business, along with appraisal records, worksheets, copies of Notices of Valuation, all correspondence, and any other data pertaining to that specific taxpayer or business.

Account Identification System

To provide overall control of the ownership files and records, a permanent unique personal property account identification number should be assigned to each personal property account.

The recommended unique account identification number consists of business activity code, ownership number, and physical location number.

Business Activity Code (5 digits):

The first digit corresponds with the general property class.

- 1 = residential
- 2 = commercial
- 3 = industrial
- 4 = agricultural
- 5 = open
- 6 = natural resources
- 7 = open
- 8 = state assessed
- 9 = exempt

The next four digits correspond with the Standard Industrial Classification Manual published by the Office of Statistical Standards of the Federal government for each type of business or industry.

As an example, 7359 is the standard industrial code for an equipment leasing business. Thus 27359 indicates a commercial equipment leasing business. Refer to the Standard Industrial Classification Manual that is available from any U.S. Government Printing Office. It is also available online at: www.osha.gov/pls/imis/sicsearch.html.

Ownership Number (5 digits):

The assignment of a five-digit owner number provides for 99999 possible individual owners of personal property for each specific type of business or industry within the county. The ownership number is assigned by the assessor.

Physical Location Number (3 digits):

The assignment of a three-digit physical location number provides for 999 possible locations within the county for one owner.

An example account identification number 2-7394-00250-001 is shown below:

<u>Account Identification Number</u>			
Business	Activity	Ownership	Location
2	7359	00250	001
commercial	equipment leasing	owner number	number of business physical location

Account identification numbers provide for control of the personal property accounts. It also allows the assessor to keep records for similar types of businesses together for easy reference and comparison, on a business-by-business basis, when needed.

The ownership control numbers should be used on all records pertaining to a given taxpayer. Listed below are various records, which may be cross-referenced when using the ownership control numbers.

- Alpha listing
- Numerical listing
- Cadastral cards
- Property declaration schedules
- File jackets
- Appraisal records
- Master property record cards
- Notice of Valuation
- Location listing
- Correspondence
- Out of state owner listing
- Tax warrant
- Tax bills

Archives Requirements

Personal property listings and valuation records are kept for six years, plus the current year, after which they may be destroyed with the permission of the State Archivist. Refer to **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES MANUAL, Chapter 1, Overview of Assessor's Duties and Relationships**, for specific archive retention procedures.

Confidentiality

Confidential information includes detailed listings of personal property reported by a prior owner, whether or not values are included with the listing. According to § 39-1-102(9), C.R.S., "Person" means natural persons, corporations, partnerships, limited liability companies, associations, and other legal entities which are or may become taxpayers by reason of ownership of taxable real or personal property." Pursuant to § 39-5-120, C.R.S., the personal property declaration schedule and attachments are confidential documents and only the following persons have a legal right to view them.

1. The county assessor or members of the assessor's staff
 - a. The assessor and staff have access to the personal property declaration schedule only as it pertains to the conduct of their official duties. Assessors may restrict which staff members may see or use the schedules.
2. The county treasurer or members of the treasurer's staff
 - a. The treasurer and staff have access to the personal property declaration schedule only as it pertains to the collection of taxes due from the property listed in the schedule. The treasurer may restrict access to only those employees directly involved in the taxation of personal property.

3. The annual assessment study contractor, hired pursuant to § 39-1-104(16), C.R.S., and employees of the contractor
 - a. The annual assessment study contractor may view the declaration schedule only as part of the fulfillment of the annual study contract. The results of any such study are reported to the Legislative Council and the State Board of Equalization. No information from personal property declaration schedules may be used by the annual study contractor for purposes outside the scope of the contract.
4. The executive director of the Colorado Department of Revenue and staff members of the Department of Revenue
 - a. The staff of the Colorado Department of Revenue may view the personal property records as part of their official duties. This does not include agents of the Federal Internal Revenue Service.
5. The Property Tax Administrator and Division of Property Taxation staff
 - a. Division of Property Taxation staff may view the personal property records if it is part of their official duties.
6. The county board of equalization (CBOE) and the Board of Assessment Appeals (BAA) when pertinent to a hearing or protest review
 - a. The CBOE or the BAA may see the personal property records as part of an administrative appeal only. In addition, members of these boards may only have access to these records when the appeal is properly before them for hearing. Only county commissioners or their designees may see personal property declarations when they sit as the County Board of Equalization.
 - b. The arbitrator, as defined in § 39-8-108.5, C.R.S., may subpoena the personal property records when they are involved in an arbitration proceeding.
7. The person whose property is listed on the schedule
 - a. The owners of the personal property may see their own schedule. This includes the authorized agent of the owner. Assessors should require written authorization from the owners of the personal property before releasing the information to a third party.
 - b. Taxpayers who purchased personal property or businesses during the current year are not allowed to see the personal property declaration schedule of a previous owner without the consent of that owner. This may include a waiver in the sale contract that sets forth the rights of the new owner to access all information previously filed. If the waiver was not part of the contract, the assessor should require separate written authorization prior to release of any confidential information.
 - c. If the new owner disagrees with the value established by the assessor, a physical inspection of the property should be scheduled as soon as possible. The total value determined from the physical inspection should be compared to the property's current total value to ascertain if an adjustment is warranted.
8. Personal property records ordered opened by the district court

Anyone listed above who uses the personal property schedules as part of official duties is also subject to the confidentiality provisions and may be held accountable for divulging the information on the schedule.

The statutory penalties for divulging confidential information include a fine of not less than \$100 nor more than \$500, or a prison term of up to 3 months, or both as provided for in § 39-1-116, C.R.S.

26 U.S.C. s 7602 of the Internal Revenue Code (IRC) gives representatives from the Internal Revenue Service (IRS) the authority to examine and/or summon certain information (including confidential declaration schedule information) that the Secretary may deem as proper, related to ascertaining the correctness of any return for Federal taxation purposes. Any person that is served with an IRS summons to produce confidential records and information must timely comply or be faced with penalties as noted in Section 7604 of the IRC. Section 7609 of the IRC relieves any person from liability who makes such disclosure in reliance on a summons.

The natural resources property declaration schedules and appraisal records are used for both real and personal property data. Since confidential real and personal property information is contained on both the front and back of these declaration schedules, requests for non-confidential information should be directed to other public agencies which have access to this information and have the means of disclosing it to the public.

These agencies include, but are not limited to, the Colorado Oil and Gas Conservation Commission, Colorado Division of Minerals and Geology, and the Federal Bureau of Land Management.

TAXPAYER RESPONSIBILITIES – DECLARATION SCHEDULES

All owners of taxable personal property are to complete and file a personal property declaration schedule no later than April 15 each year as required by § 39-5-108, C.R.S. The taxpayer must make a full and complete disclosure of all personal property owned by, under the control of, or in the possession of the taxpayer on the schedule, including any costs incurred for acquisition, sales/use tax, installation, and freight to the point of use of the personal property as required by to § 39-1-103(13)(b), C.R.S. The taxpayer must also submit any other information requested by the assessor so that the assessor may place a value on the property as required by § 39-5-115(1), C.R.S.

Declaration schedules have been developed by the Division of Property Taxation for use by the county assessors as required by § 39-2-109(1)(d), C.R.S. Assessors must provide these forms to the taxpayers for submission of their personal property data as required by § 39-5-107, C.R.S.

The primary form used by commercial business taxpayers is the Personal Property Declaration Schedule - DS 056. Other forms have been developed for residential rental taxpayers, lessors of personal property, and natural resource operations. A list of forms may be found in the assessor's archives retention schedule located in **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES, Chapter 1, Overview of Assessor's Duties and Relationships.**

EXEMPTION OF CONSUMABLE PERSONAL PROPERTY

In 2000, the Colorado Legislature amended § 39-3-119, C.R.S., to require the Division of Property Taxation to “...publish in the manuals, appraisal procedures, and instructions prepared and published pursuant to section 39-2-109(1)(e) a definition or description of the types of personal property that are ‘held for consumption by any business’ and therefore exempt from the levy and collection of property tax pursuant to this section.” Refer to **Chapter 7, Special Issues**, for “consumable” personal property exemption criteria and examples.

Taxpayers are strongly encouraged to file a complete itemized listing of all property that they own, lease, rent, or possess including property that they consider as “consumable” personal property in their first listing of assets with the county assessor. Without an itemized listing of consumable property, assessors will not be able to make an appropriate adjustment to the taxpayer’s property listing to accommodate the “consumable” property exemption.

\$2,500 OR LESS PER COUNTY EXEMPTION

Exemption of personal property equal to or less than \$2,500 in total actual value is provided for in § 39-3-119.5, C.R.S. An exemption is allowed and should only be applied if the total actual value of taxpayer's personal property per county is equal to or less than \$2,500. The statute does not exempt the first \$2,500 of each personal property taxpayer's schedule.

On September 10, 2001, in Huddleston and TCI v. Board of Equalization of Montezuma County, 31 P. 3d 155 (Colo. 2001), the Colorado Supreme Court affirmed four separate Colorado Court of Appeals’ judgments that had reversed the decisions of the State Board of Assessment Appeals (BAA). Principally, at issue was whether the Property Tax Administrator’s interpretation that § 39-3-119.5, C.R.S., should be applied on a *per business location* basis by the assessors of this state is consistent with section 20(8)(b) of article X of the Colorado Constitution, which provides for the exemption of personal property. This ruling changed the previous Division policy that held that this exemption should be applied on a “per business location” basis.

This decision allows taxpayers to file more than one schedule for efficiency and convenience, but clarifies that the exemption must be applied for taxpayers owning \$2,500 or less of business personal property on a per county basis.

Listed below are important criteria that must be considered when implementing this legislation:

1. This exemption applies to all personal property:
 - a. That is not otherwise exempt by constitutional or statutory authority, and
 - b. That is defined under § 39-1-102(11), C.R.S., as machinery, equipment, and other articles related to a commercial or industrial operation **or** are defined, under §§ 39-1-102(6) and (10), C.R.S., as household furnishings or personal effects and that are used for the production of income for any time during the assessment year, and
 - c. Where the total actual value of the personal property owned by a specific taxpayer and located in the same county is \$2,500 or less.
2. Taxpayers owning personal property that has a total actual value of \$2,500 or less per county are not required to file a personal property declaration schedule with the assessor in that county.

3. All personal property owners, regardless of property classification subclass, are subject to the \$2,500 exemption threshold. This includes all residential, commercial, industrial, other-agricultural, natural resource, producing mines, oil and gas, and state assessed personal property.
4. If an assessor believes, through comparison with similar types of businesses, that the total actual value of the taxpayer's personal property per county is likely to exceed the \$2,500 threshold, a declaration schedule should be sent, a "best information available" (BIA) valuation should be assigned to the property, and the taxpayer should be notified prior to the tax bill being issued. Assessors are encouraged to contact taxpayers by telephone or through a physical inspection of the personal property, as soon as possible, to determine whether the \$2,500 threshold is exceeded. If it is apparent that the total actual value is likely to exceed the threshold, taxpayers should be advised, as soon as possible, and given the opportunity to provide an itemized list of the personal property.

The sections of the DS 056 Personal Property Declaration Schedule are listed below, along with an explanation of their purpose and use in the creation of accurate property listings.

SECTION A - NAME, ADDRESS, AND LOCATION

The current name and address provide for the documentation of ownership and property appraisal file control. The name and address help the assessor to cross-reference information if the taxpayer requests valuation information. Since name and address changes are requested, this information also helps the assessor to determine when there has been a change in ownership.

The current owner's name and address, as corrected or changed, are also carried forward to the tax roll and assist the treasurer in collecting taxes due. Finally, this information gives the assessor a source for further information about the property being appraised.

If, after due diligence, the assessor cannot ascertain the ownership of personal property, the assessor may list such property on the tax roll as "owner unknown" as allowed by § 39-5-102(2), C.R.S. In this event, the assessor should confer with the county treasurer and county attorney to determine if the landowner on which this personal property is located should be notified by the treasurer to immediately pay taxes on the personal property as authorized under the suspicion of removal statutes found in § 39-10-113(2), C.R.S.

A box has been provided just to the right of the name and address area to allow the taxpayer to indicate that there are no changes of any kind from the declaration schedule filed the prior year. If the taxpayer checks this box, only declaration schedule **Section I - Declaration**, must be filled out and signed before the declaration schedule is returned to the assessor. The check box indicating no change from last year should only be used if the assessor has received a complete itemized list of the taxpayer's personal property in a prior year.

The actual physical location of personal property, as of the January 1 assessment date, must be determined to establish its taxable situs within the boundaries of the taxing entities which will levy property taxes. A business address at which the personal property is located will assist the assessor in making this determination. If a business address is not available, the legal description of the real property at which the personal property is located should be used.

To the right of the actual physical location area is a box for the taxpayer to indicate the name and address of the prior owner of the personal property. This information is useful as a crosscheck to ensure there is no double assessment of this personal property.

SECTION B - START-UP DATE AND PRODUCT/SERVICE TYPE

The taxpayer is asked to furnish information concerning the start-up date of the business and its primary product or service type. This information may assist the assessor in determining if the personal property owner has filed a complete list of personal property for this type of business for each year since the business was started.

SECTION C - BUSINESS STATUS

Section C requests specific information about whether the business is new or if it has been in existence or if the taxpayer recently acquired the business or if the business was closed before January 1 of the current assessment year. Taxpayers owning personal property that has a total actual value of \$2,500 or less per county, are not required to file a personal property declaration schedule with the assessor.

The business status impacts the information supplied by the taxpayer on the rest of the declaration schedule. It is important for assessors to know if they are receiving the first declaration schedule from a new owner to determine if the costs reported on the schedule are allocated from the previous owner's costs.

Section C also provides a place for the taxpayer to indicate, if the business was closed prior to January 1 of the current assessment year, whether the personal property associated with the business was stored or sold and if sold, to whom. Space is provided for the taxpayer to indicate a changed location for the personal property and the date of this change.

SECTION D - LISTING OF PERSONAL PROPERTY

The taxpayer must fully and completely disclose all taxable personal property to the assessor as required by §§ 39-5-108 and 114, C.R.S. To do so, taxpayers must furnish the assessor with a complete detailed listing of all personal property at least once, hopefully on the first filing. The list should include the item's identification number; its description; its model or capacity; its year of acquisition (new or used is to be checked); installed cost to the current owner including acquisition cost, sales/use tax, installation, and freight to the point of use; and a check mark in the box to the right if the item was not in use as of the current January 1. If the item of personal property was not put into use at some time prior to the current January 1, it is not taxable until the year following its initial use pursuant to § 39-3-118.5, C.R.S.

This statute was enacted to provide for exemption of personal property acquired by Colorado businesses, but not as yet put into use.

Business personal property – exemption.

For property tax years commencing on and after January 1, 1996, business personal property shall be exempt from the levy and collection of property tax until such business property is first used in the business after acquisition.

§ 39-3-118.5, C.R.S.

Refer to the *Taxable or Exempt* topic later in this chapter for a listing of criteria to be used in establishing the exemption period prior to first use.

The requirement for a detailed listing benefits both the assessor and the taxpayer by specifically identifying the property being valued. A good itemized listing of personal property reduces the possibility of double assessment of property because each item is identified. It also gives the treasurer a list of property to distraint if the taxes are not paid.

After a complete listing has been filed with the assessor, the taxpayer is only required to file additions and deletions, occurring after each January 1 assessment date, on the following year's declaration schedule. The assessor values any reported additions for the current assessment year and removes any reported deletions from the current assessment year's appraisal records.

All assets with a life of greater than one year, whether expense or capitalized; fully depreciated assets still in use; and stored assets which have been subject to IRS depreciation should be included in the initial complete listing and as subsequent additions.

If taxpayers do not submit an itemized list with their first declaration schedule, the assessor should create one as soon as possible. The account should be included with the physical inspections planned for the current year. In this way, the itemized list may be prepared in conjunction with the performance analysis physical inspections that should be performed according to the plan established by the county assessor.

SECTION E - UNLICENSED MOBILE EQUIPMENT

A list of all mobile machinery and self-propelled construction equipment that qualifies for ad valorem taxation should also be itemized on the Personal Property Declaration Schedule. With only two exceptions, Class F personal property should only be listed for ad valorem tax purposes as a last resort to ensure that the property is taxed. Refer to **Chapter 7, Special Issues**.

SECTION F - GENERAL LEDGER

The beginning (book) balances, as they exist each January 1 for the past and current assessment year, should be extracted by the taxpayer from the business accounting records and listed by the personal property asset categories shown on the declaration schedule.

Differences between the current and prior year should be reconciled by the assessor to the additions and deletions of personal property items reported in declaration schedule **Section D – Listing of Personal Property** and to the taxpayer's latest depreciation schedule, as reported to the Internal Revenue Service, which is requested in declaration schedule **Section G – Fully Depreciated Assets Still in Use**. Income tax information, from the Department of Revenue, is available to the assessor pursuant to §§ 39-21-113(7) and (10), C.R.S.

SECTION G - DEPRECIATION

The total original (book) installed cost of all fully depreciated assets still in use must be shown in this section. Also, a copy of the taxpayer's Internal Revenue Service income tax depreciation schedule must be filed and attached to the Personal Property Declaration Schedule. The depreciation schedule provides the assessor with information necessary to reconcile the differences in the general ledger balances reported in declaration schedule **Section F – General Ledger**.

Accessing Taxpayer Colorado Income Tax Records

There is a provision in Colorado Revised Statutes that allows county assessors to obtain Colorado income tax returns for business taxpayers, including depreciation information, from the Colorado Department of Revenue (DOR). Refer to *Obtaining New Sales Tax Account Listings* earlier in this chapter.

SECTION H - LEASED, LOANED, OR RENTED PERSONAL PROPERTY

Taxpayers should list all leased, loaned, or rented equipment, furniture, and machinery that is being used by, is in the possession of, or is under the control of the taxpayer on January 1. All leased equipment must be identified by the name, address, and telephone number of the owner (lessor), the item's description, its model and serial number, its lease number, the lease term (from-to), and the annual rent paid for the item.

Section H is the assessor's the most important tool for the discovery of leased property. Since the report comes from the lessee, it can be used as a cross-reference to the declaration schedule filed by a leasing company and, thereby, aid in the discovery of new leasing companies and unreported leased property operating in the county.

SECTION I - DECLARATION AND SIGNATURE

The language found in the taxpayer's declaration statement regarding personal property owned by, in the possession of, or under the control of the taxpayer, is required by § 39-5-107(2), C.R.S., and falsification of this declaration constitutes perjury in the second degree.

The declaration schedule must be signed by the owner of the property or the owner's authorized agent. Any schedules which are unsigned must be returned to the taxpayer for signature. It is Division policy that the assessor should keep a copy of unsigned schedules in case these taxpayers neglect to return signed copies. Failure to return a signed copy should be considered as failure to timely file.

Failure on the part of the taxpayer to return the declaration schedule by April 15 will result in the addition to the tax bill of a penalty of 15 percent or 50 dollars of the taxes due, whichever is less. This penalty attaches to the tax bill whenever a declaration schedule is submitted after April 15 or after the last day of the extension period, if an extension has been properly requested pursuant to § 39-5-116(1), C.R.S.

Failure by the taxpayer to make full and complete disclosure of all personal property may result in BIA valuations; or in omitted property valuations for up to six (6) previous years; or penalties of up to 25% of the current assessed valuation of any omitted property value above BIA value, that is discovered and added to the assessment roll as provided for in § 39-5-116(2), C.R.S.

LESSOR PERSONAL PROPERTY DECLARATION SCHEDULE

A separate leasing company declaration schedule, entitled Lessor Personal Property Declaration Schedule - DS 060, is to be used by leasing companies or any other taxpayers owning rental property at various locations.

In this declaration schedule, the taxpayer provides the cost, market, and income information necessary for the assessor to value leased property owned by the taxpayer. Many large leasing companies provide a supplemental listing to this declaration schedule; however, any supplemental listing should contain the same information as this schedule and must be attached to a signed declaration schedule.

The taxpayer must submit a list of the names and addresses of the users (lessees) where the leased property is located. This will allow the placement of the property, by location of the user, in the proper taxing areas.

This list also allows the assessor to mail individual notices of valuation to the lessee, if mutual agreement as to whom the property is assessable can be reached among the assessor, the lessee, and the lessor.

The separate leasing company declaration schedule also provides for manufacturers of personal property who lease property as described in § 39-1-102(7.2), C.R.S.

The manufacturer may claim an exemption, as inventory, for the leased property for those leased items which are returned and held for scrapping, reconditioning, renovation or remanufacturing; or which are rented for thirty (30) days at a time or less, may be returned at the option of the renter, and for which sales/use tax is collected when the property is finally sold.

Items owned by manufacturers/lessors that were leased during the previous calendar year, but that have been returned to the manufacturer/lessor for scrapping, substantial reconditioning, renovating, or remanufacturing must be reported to the assessor for the assessment year following the year in which the items were put back into service.

OTHER PERTINENT INFORMATION

The taxpayer should also provide the assessor with other information affecting the value of personal property. If market or income information is available, the taxpayer should submit it as an attachment to the declaration schedule.

Any information regarding apportionment of values between counties or the proration of works of art value must be submitted to the assessor. All other pertinent information requested by the assessor should be submitted by the taxpayer in writing. All attachments or submissions of information by the taxpayer are considered a part of the declaration schedule and, as such, are confidential as required by § 39-5-120, C.R.S.

CLASSIFICATION

After property has been located or "discovered" and listed, it must be properly classified. Proper classification is necessary because the property valuation methodology may vary depending on the classification. Furthermore, there are several classes of property that are exempt from taxation by statute. The two fundamental classifications that the assessor must make are as follows:

1. Real or Personal Property
2. Taxable or Exempt Property

REAL OR PERSONAL

The first classification that the assessor must make is to determine whether the property being appraised is real or personal.

As discussed in **Chapter 1, Applicable Property Tax Laws**, real property is defined as paraphrased from §§ 39-1-102(7) and (14), C.R.S., as land, water rights, fixtures, fences, mines, quarries, mineral interests, and improvements. The statutes further define personal property as anything subject to ownership that is not real property.

CHARACTERISTICS OF FIXTURES

Fixtures are defined in § 39-1-102(4), C.R.S. The definition may be paraphrased as those articles that were once movable chattels, but have become an accessory to or a part of real property by having been physically incorporated therein or annexed or affixed thereto.

Fixtures include systems for the heating, air conditioning, ventilation, sanitation, lighting, and plumbing of a building. Fixtures do not include machinery, equipment, or other articles related to a commercial or industrial operation which are affixed to the real property for proper utilization of such articles. In addition, for property tax purposes only, fixtures do not include security devices and systems affixed to any residential improvements including, but not limited to security doors, security bars, and alarm systems.

Fixtures include all components of the systems for the heating, air conditioning, ventilation, sanitation, lighting, and plumbing of a building. These will be collectively referred to as fixture systems.

Fixture systems, which are statutorily defined as real property, are appraised at the level of value designated for other real property. Fixture systems generally are given the same economic life as the building that they serve. However, if technological, economic, or functional obsolescence exist, it is possible that fixture systems may have a shorter economic life than the building that they serve.

In Del Mesa Farms, et al. v. Montrose CBOE, 956 P.2d 661 (Colo. App. 1998), using the definition of fixtures as stated in § 39-1-102(4), C.R.S., the court reasoned that a distinction must be made for classification purposes for items that are related to the operation of the building and items that are related to the operation of a business in the building. The court noted “. . . Thus, in our view, regardless of whether a particular item is affixed to a building and may otherwise constitute a fixture system, the item constitutes personal property if its use is primarily tied to a business operation. . . (emphasis added)”

Major issues that arise in the classification of property as either real or personal are in the category of real property fixtures as discussed in **Chapter 1, Applicable Property Tax Laws**.

TAXABLE OR EXEMPT

All property in the state is taxable unless specifically exempt by the Colorado Constitution. The types of personal property exempt from taxation are listed in **Chapter 1, Applicable Property Tax Laws**. What follows are the specific definitions of the exempt property and the applications of these exemptions by the assessor. All exemptions from property taxation are strictly construed and in United Presbyterian Association, et al. v. Board of County Commissioners, 167 Colo. 485, 448 P.2d 967 (1968), the court held that the taxpayer has the responsibility to prove that property is exempt. If a property owner is claiming exemption from taxation, the owner must show where in the Colorado Constitution or the statutes the exemption is justified.

EXEMPTION OF CONSUMABLE PERSONAL PROPERTY

In 2000, the Colorado Legislature amended § 39-3-119, C.R.S., to require the Division of Property Taxation to “...publish in the manuals, appraisal procedures, and instructions prepared and published pursuant to section 39-2-109(1)(e), C.R.S., a definition or description of the types of personal property that are ‘held for consumption by any business’ and therefore exempt from the levy and collection of property tax pursuant to this section.” Refer to **Chapter 7, Special Issues**, for “consumable” personal property exemption criteria and examples.

EXEMPTION - ACTUAL VALUE OF \$2500

Exemption of personal property equal to or less than \$2,500 in total actual value is provided for in § 39-3-119.5, C.R.S. An exemption is allowed and should only be applied if the total actual value of taxpayer's personal property per county is equal to or less than \$2,500. The statute does not exempt the first \$2,500 of each personal property taxpayer's schedule.

On September 10, 2001, in Huddleston and TCI v. Board of Equalization of Montezuma County, 31 P. 3d 155 (Colo. 2001), the Colorado Supreme Court affirmed four separate Colorado Court of Appeals' judgments that had reversed the decisions of the State Board of Assessment Appeals (BAA). Principally, at issue was whether the Property Tax Administrator's interpretation that § 39-3-119.5, C.R.S., should be applied on a *per business location* basis by the assessors of this state is consistent with section 20(8)(b) of article X of the Colorado Constitution, which provides for the exemption of personal property. This ruling changed the previous Division policy that held that this exemption should be applied on a "per business location" basis.

This decision allows taxpayers to file more than one schedule for efficiency and convenience, but clarifies that the exemption must be applied for taxpayers owning \$2,500 or less of business personal property on a per county basis.

Listed below are important criteria that must be considered when implementing this legislation:

1. This exemption applies to all personal property:
 - a. That is not otherwise exempt by constitutional or statutory authority, and
 - b. That is defined under § 39-1-102(11), C.R.S., as machinery, equipment, and other articles related to a commercial or industrial operation or are defined, under § 39-1-102(6) and (10), C.R.S., as household furnishings or personal effects and that are used for the production of income for any time during the assessment year, and
 - c. Where the total actual value of the personal property owned by a specific taxpayer and located in the same county is \$2,500 or less.
2. Taxpayers owning personal property that has a total actual value of \$2,500 or less per county are not required to file a personal property declaration schedule with the assessor in that county.
3. All personal property owners, regardless of property classification subclass, are subject to the \$2,500 exemption threshold. This includes all residential, commercial, industrial, other-agricultural, natural resource, producing mines, oil and gas, and state assessed personal property.
4. If an assessor believes, through comparison with similar types of businesses, that the total actual value of the taxpayer's personal property per county is likely to exceed the \$2,500 threshold, a declaration schedule should be sent, a "best information available" (BIA) valuation should be assigned to the property, and the taxpayer should be notified prior to the tax bill being issued. Assessors are encouraged to contact taxpayers by telephone or through a physical inspection of the personal property, as soon as possible, to determine whether the \$2,500 threshold is exceeded. If it is apparent that the total actual value is likely to exceed the threshold, taxpayers should be advised, as soon as possible, and given the opportunity to provide an itemized list of the personal property.

AGRICULTURAL

Agricultural and Livestock Products

Definitions

‘Agricultural and livestock products’ means plant or animal products in a raw or unprocessed state that are derived from the science and art of agriculture, regardless of the use of the product after its sale and regardless of the entity that purchases the product. ‘Agriculture’, for purposes of this subsection (1.1), means farming, ranching, animal husbandry, and horticulture.

§ 39-1-102(1.1), C.R.S.

This definition includes all plant or animal products in the raw or unprocessed state. These would include, but are not limited to, products such as alfalfa, all grains, eggs, milk, and fruit. All of these products are exempt from ad valorem taxation.

Any items not qualifying as agricultural or livestock products and any processed products may qualify for exemption as supplies or inventories of merchandise and materials held for sale.

Agricultural Equipment Used on the Farm or Ranch

Section 39-1-102(1.3), C.R.S.

All of the following qualifications must be met for the property to be exempt as agricultural equipment:

1. Agricultural equipment must be personal property to be exempt. Fixtures, as defined in § 39-1-102(4), C.R.S., are to be valued as part of the building or structure and are assessed at 29%. A distinction must be made for classification purposes for items that are related to the operation of the building and items that are related to the operation of a business in the building. Regardless of whether a particular item is affixed to a building and may otherwise constitute a fixture system, the item constitutes personal property if its use is primarily tied to the business operation. Therefore, any mechanical system used on the farm or ranch for the conveyance and storage of animal products in a raw or unprocessed state is exempt regardless of whether or not it is a fixture.
2. The equipment must be used on a farm or ranch, that is, land where agricultural products originate from the productivity of the land or land which is grazed by domestic animals.
3. Only equipment which is used to plant, grow, or harvest an agricultural product, raise or breed livestock, or those agricultural items which are primarily tied to the business operation are exempt.

It is very important that the terms "farm" and "ranch" be understood by the assessor when classifying agricultural personal property because only that personal property used on a farm or ranch is exempt. The specific definitions for the terms "farm" and "ranch" are found in §§ 39-1-102(3.5) and (13.5), C.R.S., respectively.

Livestock

Section 39-1-102(7.8), C.R.S.

Livestock includes all animals. The animals need not be used on a farm or ranch to be exempt as indicated in section 3(1)(c) of article X, of the Colorado Constitution when read in conjunction with § 39-1-102(7.8), C.R.S.

ALL OTHER AGRICULTURAL AS "ALL OTHER" PROPERTY

As required by § 39-1-102(1.6)(b), C.R.S., all other agricultural property that does not meet the definition set forth in § 39-1-102(1.6)(a), C.R.S., must be classified and valued as all other property. For purposes of identification, a classification category of "all other agricultural property" was developed and includes agribusinesses and/or agriculturally related commercial operations.

These types of properties are not directly related to farming, ranching, animal husbandry or horticulture. The land, improvements and personal property classified as "all other agricultural property" are taxable.

A complete discussion of the valuation of agricultural lands is found in **ARL Volume 3, LAND VALUATION MANUAL, Chapter 5, Valuation of Agricultural Land.**

RESIDENTIAL HOUSEHOLD FURNISHINGS

Section 39-1-102(6), C.R.S.

Any household furniture and freestanding appliances and security systems found in private homes which are used to produce income at any time during the year are taxable for the entire year, otherwise they are exempt pursuant to § 39-3-102, C.R.S. Furniture, freestanding appliances, and security systems found in rental units are taxable. There is no exemption in the law for rental units below a certain size, for example, duplexes or single family residences.

No work of art, as defined in § 39-1-102(18), C.R.S., which is not subject to annual depreciation and which would otherwise be exempt as household furnishings shall cease to be exempt because it is stored or displayed on premises other than a residence pursuant to § 39-3-102(2), C.R.S.

INTANGIBLE PERSONAL PROPERTY

Sections 39-3-118 and 39-22-611, C.R.S.

Black's Law Dictionary, Sixth Edition defines intangible property and intangible assets, paraphrased as follows.

As used in the law of taxation, the term intangible property means that such property has no intrinsic and marketable value, but is merely the representing evidence of value such as certificates of stock, bonds, promissory notes, copyrights, and franchises:

An intangible asset is property that is a "right" such as a patent, copyright, trademark, etc., or one which is lacking physical existence, such as goodwill.

Software is classified as intangible property except for the machine language which is automatically initiated during the computer startup. The value of this machine language is inherent in the value of the computer hardware and is not to be exempted. Refer to **Chapter 7, Special Issues**, for a complete discussion of *Software*.

INVENTORIES OF MERCHANDISE, MATERIAL AND SUPPLIES

Section 39-1-102(7.2), C.R.S.

The elements of what constitutes exempt inventory include the following:

1. Personal property which is held primarily for sale by a business, farm, or ranch
2. Component parts of personal property held for sale by a business, farm, or ranch or items that are part of the manufacturing process
 - a. The items in these two categories include any inventory held for sale; raw materials, work in progress, and finished goods held by a manufacturer; and replacement parts inventory held for sale by manufacturers, wholesalers, or retailers. There is no difference in the inventory held for sale between a wholesaler or a retailer. Any items held for sale by a business whose primary purpose is the sale of such inventory and which are listed as inventory on the company's financial records are exempt.
 - b. The definition does not include equipment that is for sale by a business, which does not regularly engage in the sale of inventory. For example, an individual who claims that all of his furniture is for sale as of January 1 cannot have his property exempted as inventory. The primary use of the property is not to be held for sale; rather it is to operate the business.
 - c. In addition, any property that is subject to an allowance for depreciation cannot be classified as exempt inventory. Careful examination of the taxpayer's financial records should reveal any allowances for depreciation taken. An exception to this requirement is property rented for 30 days at a time or less as provided for in § 39-1-102(7.2), C.R.S.
3. Items that are held for consumption by a business, farm, or ranch
 - a. Supply items are generally considered to be consumed internally during the operation of a business, farm, or ranch and are not generally sold. Such things as paper, pencils, computer disks, baling wire, fuel, and fertilizer are normally included in this category.

4. Rental property that is:
 - a. Rented for thirty days at a time or less, and
 - b. Which can be returned at the option of the person renting, and
 - c. Is involved in transactions on which the sales/use tax will be collected before finally being sold, and
 - d. Is not governed by the terms of a lease contract covering a specific period of time and which includes financial penalties for early cancellation.
 - i. In general, personal property held for rent or lease is taxable except for property with a life of less than one year, in which case, it is considered a supply item and is therefore exempt.
 - ii. The language of § 39-1-102(7.2), C.R.S., exempts certain rental property under specific conditions. (The rental property for which exemption is claimed must meet all the criteria set forth in the law before it can be declared exempt.)
 - iii. The following describes certain types of personal property which are rented or leased and appear to conform, but in fact do not conform with the thirty days or less exemption criteria. This type of personal property can be discovered through the usual process of identifying such businesses and sending or delivering a personal property declaration schedule.

Automatic Rollover Leases

If an item of personal property is typically rented for more than thirty days, even if the rental/lease agreement is structured to appear otherwise, then the item of personal property is actually rented for more than 30 days. Therefore, the item does not fall under the 30 days or less rental exemption. Examples of this type of personal property rollover leases would include water service bottle holders/dispensers and all rent-to-own furniture, appliances, construction tools, and equipment.

Service Organization Property Leases

Even if the item of personal property is "changed out" or replaced with an identical or closely similar item during a period of time of less than 30 days, these items of personal property are actually rented for more than 30 days. Therefore, these items do not fall under the 30 days or less rental exemption. Examples of this type of service organization property would include compressed gas tanks, water service bottles, live plant leasing companies.

Property Secondary (Sub) Leases

If the item of personal property is rented for thirty days or less and conforms to all other provisions of the 30 days or less rental exemption, but this item is leased for more than 30 days from an original distributor, the property does not qualify for the thirty days or less rental exemption.

In these cases, the personal property is actually owned by the original distributor, not by the company executing secondary (sub) leases with a consumer. Therefore, the property is actually leased for more than 30 days to the secondary lessor.

Exemption of personal property held for rent in no way affects the assessment of any furniture or equipment used by the business. This property would be taxable so long as it does not meet any of the other requirements for exemption found in the law.

5. Inventory owned by and in the possession of the manufacturer of the inventory when both of the following apply:
 - a. The inventory is in the possession of the manufacturer after having been leased to a customer directly by the manufacturer.
 - b. The inventory is designated for scrapping, reconditioning, renovation or remanufacture. Normal maintenance is not included in these criteria.

Items owned by manufacturers/lessors that were leased during the previous calendar year, but that have been returned to the manufacturer/lessor for scrapping, substantial reconditioning, renovating, or remanufacturing must be reported to the assessor for the assessment year following the year in which the items were put back into service.

The language of the statute only addresses machinery that had once been directly leased by the manufacturer to the customer and which has been returned to the manufacturer. The manufacturer must designate such property for scrapping or major reconditioning to qualify the property as exempt. Items which are leased through a third party or which have been returned for normal maintenance do not qualify as exempt.

Any leased property which has been returned to the manufacturer and which has not been designated for scrapping or substantial reconstruction cannot be classified as exempt inventory and must be reported to the assessor who will value and assess it as taxable equipment pursuant to § 39-5-107(1), C.R.S.

BUSINESS PERSONAL PROPERTY NOT AS YET IN USE

Section 39-3-118.5, C.R.S.

Business personal property shall be exempt from the levy and collection of property tax until such business personal property is "first used" in the business after acquisition. Taxpayers are to be given this exemption during the "window" between the date an item of personal property is acquired and the date when the item is first used in the business.

The following criteria should be used when establishing the exemption period prior to first use:

1. This policy applies to all newly acquired personal property that is either locally or state assessed, whether it was acquired either new or used or for either a new or existing business.
2. Information reported by the taxpayer on the applicable declaration schedule will be the primary source in establishing the period of exemption and the point in time when the property becomes assessable. The assessor should contact the taxpayer to resolve any questions regarding acquisition year and year of first use. In case of disagreement between the taxpayer and county regarding the year of first use, the burden of proof is on the taxpayer to substantiate the year the item was first used in the business.

3. The Division has incorporated special language and formatting in all declaration schedules so that taxpayers can indicate both year of acquisition and year the item was first used in the business.
4. Personal property that is on-site, but has not initially been put into service, qualifies for this exemption. The exemption also applies to property that is in a test or “shakedown” mode prior to being put into service. Personal property that is removed from service does not qualify.
5. Until it is first leased, property acquired for lease by a lessor qualifies for this exemption. However, once this property is leased, it no longer qualifies for this exemption.

Internal auditing procedures in the county will have to be updated so that during on-site field inspections, information is requested from the taxpayer as to the date the item was acquired in addition to the date the item was first used in the business.

PERSONAL EFFECTS

Section 39-1-102(10), C.R.S.

Personal effects include all property used by private citizens in private life. It includes any property used by the taxpayer in sports or hobbies or other recreational activities so long as the items are never used to produce income. If the equipment is used to produce any income during any time of the year, it is taxable for the entire year.

There are instances in which it is difficult to ascertain whether or not income is being derived from a personal effect. One indicator is if the taxpayer advertises a service in some sort of public medium.

If the assessor suspects that a taxpayer is using personal effects for the production of income, a declaration schedule should be sent so that the taxpayer has an opportunity to file and be on record as to the nature and use of the property.

PROPERTY LEASED TO GOVERNMENTAL ENTITIES

Various Statutes

Personal property that is leased to certain governmental entities may be exempt from property taxation.

Refer to **Chapter 1, Applicable Property Tax Laws**, for a complete listing of statutory citations for these exemptions and **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES MANUAL, Chapter 10, Exemptions**, for a complete discussion of these exemptions.

WORKS OF ART

Section 39-1-102(18), C.R.S.

Works of art are original creations of visual art, including but not limited to the following:

- Sculpture
- Paintings or drawings
- Mosaics
- Photographs
- Crafts made from clay, fiber and textiles, wood, metal, plastics or any other material
- Calligraphy
- Mixed media
- Unique architectural embellishments

As provided in § 39-3-123, C.R.S., works of art are exempt for the period of time that they are loaned to and under the control of three types of entities.

1. The State of Colorado
2. A political subdivision of the State (Counties, cities, towns, special districts; and school districts)
3. A library, an art gallery, or museum, if:
 - a. Owned or operated by a charitable organization as defined by 39-26-102(2.5), C.R.S.
 - b. The organization's property is irrevocably dedicated to charitable purposes.
 - c. The organization's assets do not benefit any private person upon the liquidation, dissolution, or abandonment by the owner.
 - d. The use of the work of art is for charitable purposes. Charitable purpose is defined as follows:
 - i. Public display
 - ii. Research
 - iii. Educational study
 - iv. Maintenance of the property
 - v. Preparation for display

The assessor can confirm items 3a through 3c by review of the Certificate of Sales Tax Exemption and the Articles of Incorporation for the art gallery or museum.

Works of art that are part of an individual's private collection and not used to produce income at any time are classified as household furnishings or personal effects and are exempt pursuant to §§ 39-1-102(6) or (10), C.R.S.

Paraphrasing § 39-3-102(2), C.R.S., no work of art, as defined in § 39-1-102(18), C.R.S., which is not subject to annual depreciation and which would otherwise be exempt as household furnishings shall cease to be exempt simply because it is stored or displayed on premises other than a residence.

Works of art that are owned by a business or corporation are taxable unless they meet the requirements of §§ 39-3-102(2) or 123, or 39-5-113.5, C.R.S.

The owners of the works of art must file documentation with the assessor to substantiate the claim for exemption each assessment year. Counties creating a form to use for the works of art exemption must submit the form to the Division of Property Taxation for approval pursuant to § 39-2-109(1)(d), C.R.S.

Proof of the Display Location's Exemption

The taxpayer claiming exemption must furnish proof of exemption according to §§ 39-26-102(2.5) and 39-3-123, C.R.S., for the location in which the works of art are to be displayed. The necessary documentation should be available from the organization that is to display the art to comply with the provisions for proof of exemption in § 39-5-113.5(1), C.R.S. Documentation is not required in the case of government buildings.

Proration of Works of Art Valuations

The assessor determines the actual value of the property and prorates the value based on the number of days it qualifies for exemption compared to the full calendar year. After the value is determined and prorated, the assessor must notify the taxpayer pursuant to § 39-5-113.5(2), C.R.S.

This page left blank intentionally.

CHAPTER 3

VALUATION PROCEDURES

There are many techniques and methods available to the assessor for valuing personal property. This chapter will discuss these techniques and methods and provide the assessor with procedures for resolving specific valuation questions.

In Colorado, assessors determine the "actual value" of taxable property. Colorado statutes define actual value as that value determined by appropriate consideration of the following approaches to appraisal:

1. Cost Approach
2. Sales Comparison (Market) Approach
3. Income Approach

The assessor is to consider and document all elements of the three approaches to appraisal that are applicable to personal property prior to an actual value estimate as required by § 39-1-103(5)(a), C.R.S. If the taxpayer's declaration is complete; if it contains a full disclosure of costs of acquisition, installation, sales/use tax, and freight to the point of use; and if it is timely filed, the cost approach to value is to be considered the maximum value as required by § 39-1-103(13), C.R.S.

Appraisals are made to determine the value of personal property. An appraisal is an estimate of value as of a given date. The assessor estimates the value of the property being appraised by using comparative data consisting of cost, recent sales, and income information. The relationship between the subject property being appraised and similar properties of known value forms the foundation of the three approaches used to measure the value of personal property. The appraisal made by the assessor is valid only for the year of assessment in which it is made. Current actual value is established each and every year for personal property as required by § 39-1-104(12.3)(a)(I), C.R.S.

Appraisals are valid only as of the date of the appraisal. In Colorado, both the appraisal date and the assessment date for personal property are defined by § 39-1-105, C.R.S., as January 1 of each year. However, after a current value is established, it is rolled back to the June 30 appraisal date established for real property, using the factors found in **Chapter 4, Personal Property Tables**, as required by § 39-1-104(12.3)(a)(I), C.R.S. The assessor values all taxable personal property owned by, in the possession of, or under the control of each taxpayer in the county based upon the characteristics and condition of the property as of January 1 as reported pursuant to § 39-5-108, C.R.S.

The assessor documents all valuations for assessment and maintains complete appraisal records to justify the values placed on the personal property. The three approaches to appraisal must be considered and documented on the appraisal records.

If a given approach to value is not applicable, the assessor should note this in the appraisal records along with defensible reasons why the approach was not used, as prescribed in Montrose Properties, LTD et al. v. Colorado Board of Assessment Appeals et al., 738 P.2d 396 (Colo. App. 1987).

DATA COLLECTION AND ANALYSIS

Before estimating the value for personal property, the assessor gathers and analyzes all necessary data. The assessor gathers general, comparative, and specific data with which to complete the appraisal. Data is collected for the subject property, or the property being appraised, as well as for comparable or similar properties. Most data collection occurs during the discovery process as discussed in **Chapter 2, Discovery, Listing, and Classification**.

GENERAL DATA

Several types of general information are gathered by the assessor. The general information is useful in determining the economic environment in which the personal property is used and may give clues to the actual value of property. The types of general information include the following:

1. Economic Trends
 - a. National
 - b. Regional
 - c. Local
2. Specific Industry
3. Business Cycles
4. Governmental Regulations

SPECIFIC DATA

The specific information necessary to value personal property includes the following:

1. Current owner name and mailing address
2. Location of the property
3. General use of the property
 - a. Residential
 - b. Commercial
 - c. Industrial
 - d. Agricultural
 - e. Natural resources
4. Description of the property
5. Year acquired
6. Specific use
7. Physical condition
8. Estimated remaining economic life

This information is specific to the subject property being appraised.

The primary tool used to gather specific information is the personal property declaration schedule described in **Chapter 2, Discovery, Listing, and Classification**.

The specific information includes a description of the subject property which is crucial to an accurate valuation. The assessor must obtain a clear, current, and detailed description of the subject property before estimating value. Without an accurate description of the subject property it will be impossible for the assessor to gather comparable information.

As discussed in **Chapter 1, Applicable Property Tax Laws**, it is the duty of the taxpayer to furnish information to the assessor about the nature and condition of the property being appraised as required by §§ 39-5-107, 108, and 114, C.R.S. However, the assessor does have a responsibility to gather as much data as possible and to contact the taxpayer if in doubt as to the nature of the subject property.

COMPARATIVE DATA

Comparative data is used to measure the value of the subject property by comparison with other, similar property. Necessary comparative data includes all specific data, as gathered for the subject. The degree of similarity between the comparable property data and the subject will determine the usefulness of the comparative data in making the appraisal.

Comparative data consists of cost, market, and income information and may be gathered for groups of property such as the following:

- Office equipment including computers
- Store equipment and furnishings
- Industrial contractors'/manufacturers' equipment
- Electronic/scientific and related equipment
- Copiers

Any comparative data gathered for use in the appraisal must be confirmed before use. It is especially important that sales information be verified with the buyers and sellers and income and expense data be verified with lessors and lessees. This will ensure that data used in the valuation of the subject is accurate and factual. Cost data submitted by the taxpayer can be confirmed during performance analysis physical inspections. Data that cannot be verified should be used with caution in the appraisal of the subject property.

APPLICATION OF THE APPROACHES

In §§ 39-1-103(5) and 104(12.3)(a)(I), C.R.S., the assessor is required to consider the cost, sales comparison (market), and income approaches to appraisal when determining the actual value of personal property.

The most current valuation information available must be gathered and analyzed. It is Division policy that sales comparison (market) and income information used to determine the current actual value of all types of personal property should be gathered and analyzed from the twelve month period immediately preceding the current assessment date, i.e. the prior calendar year. Analysis of data from this period insures that adequate current market and income information is used in the valuation of personal property.

Assessors must document the physical condition of personal property as of the assessment date. Assessors also must consider current economic conditions when appraising personal property and must document the reasons for functional and economic obsolescence as of the assessment date.

COST APPROACH

The cost approach is based upon the principle that the value of a property equals the cost of acquiring an equally desirable substitute property. It is essentially an estimate of the cost of replacing the subject property with a new property that is equivalent in function and utility. However, the subject property is usually worth less than its cost of replacement because of depreciation.

Depreciation can be defined, in simple terms, as the loss in value due to any and all causes. However, cost tables only reflect depreciation due to ordinary use of the equipment and some functional obsolescence, and do not reflect depreciation due to extraordinary functional or any economic obsolescence which must be separately estimated. Refer to ***Calculate Depreciation (Percent Good)*** later in this chapter.

Colorado statutes provide that the cost approach shall establish the maximum value of personal property when the owner of the property has timely filed a declaration which contains full and complete disclosure of all costs incurred in the acquisition and installation of the property as required by § 39-1-103(13)(a), C.R.S.

As paraphrased from § 39-1-103(13)(c), C.R.S., the assessor must consider the cost approach in good faith and shall not deny its use except for just cause that the owner has not made full and complete disclosure, or has not filed a declaration by the statutory deadline. Also, an assessor who wrongly denies the use of the cost approach can be held personally liable for all costs incurred by the taxpayer in protesting an assessment based on such denial.

TYPES OF COST

There are several different cost bases that are referred to in accounting and appraisal work. The different types of cost and descriptions of each are as follows:

Reproduction Cost New

Reproduction cost new is the cost to reproduce the subject item being appraised with another item identical to it. Reproduction cost means the cost of producing an exact replica of an item of personal property that is identical in design, materials, and workmanship to the subject. Reproduction cost new is not typically used in the valuation of personal property in Colorado.

Replacement Cost New

Replacement cost new (RCN) is the cost to replace the item being appraised (subject) with another item that is equivalent in function and utility. RCN is not an exact replica of the subject, but rather a replacement that will yield the same use. RCN is the basis of the cost approach in Colorado.

Manufacturer's Cost

Manufacturer's costs are the costs incurred by the manufacturer of the property to manufacture the item at the plant. The manufacturer's cost does not include installation, sales/use tax, and freight to the point of use.

Original Installed Cost

Original installed cost is the amount that was paid for the personal property when it was new. Original installed cost includes the purchase price of the item, freight to the point of use, applicable sales/use tax and any installation charges necessary to ready the property for use in the business location.

Original installed cost should be the cost declared on the personal property declaration schedule. It represents the cost to the owner for acquiring the item. Original installed cost is not a depreciated value.

Original installed cost is synonymous with historical cost. Original installed cost is trended to estimate RCN as of the assessment date.

Cost to Current Owner

Cost to current owner generally is the depreciated acquisition cost of used equipment reported by subsequent owners. When the current owner has purchased used personal property, the costs reported on the declaration schedule filed by the current owner may represent the depreciated value of the equipment. However, purchase prices, which are not representative of reasonable market value, should not be used. Instead, comparable equipment values should be researched and used in place of the unrealistic prices.

If the original installed costs are not reported by the current owner to the assessor, then reasonable depreciated costs, as reported by the current owner, may be used in lieu of original acquisition costs, provided these depreciated costs are representative of actual market value. Reported declaration schedule depreciated costs may be checked against the bulk sale certificate and associated asset list.

Assuming that a current owner of personal property has timely filed a declaration which includes a full and complete disclosure of all costs incurred in the most recent acquisition of the property, the most recent sale price must be used as the acquisition cost prior to calculating replacement cost new (RCN). The only exceptions to this rule are as follows:

1. If the last transaction was not arm's-length, then prior acquisition costs or comparable RCN estimates from outside sources should be used.

2. If the personal property is at the end of its economic life and the depreciated value floor of the equipment generally has been reached, then the acquisition price paid for the personal property is treated as the depreciated value floor (RCNLD) for the equipment and no replacement cost new (RCN) trending factors or percent good (depreciation) factors are applied to these prices until the property is permanently taken out of service. An exception to this rule applies when the property has been reconditioned to extend its remaining economic life.

Even though an item of personal property has been permanently taken out of service, but has not been scrapped or sold, it still has value. However, additional functional and/or economic obsolescence may exist.

Depreciated acquisition costs are generally used with the RCN cost trending and percent good factors, providing that the item of personal property has remaining economic life. Assessors may estimate RCN from outside sources in cases where non arm's-length depreciated acquisition costs are reported. When any item of personal property reaches the end of its economic life, as established in **Chapter 4, Personal Property Tables**, its value is frozen.

TRADE LEVEL

Personal property valuation should consider the appropriate trade level, which refers to the production and distribution stages of a product. There are three distinct trade levels including: the manufacturing level, the wholesale level, and the retail “end user” level. Incremental costs will be added to the product cost as it advances from one level to the next. Therefore, the final product cost will differ depending on the level of trade. In light of the Colorado Constitutional provisions requiring property to be assessed at its “actual value” and promoting the principle of “equalized value,” all property is valued at the retail “end user” level.

If an owner of taxable personal property declares manufacturing or wholesale costs, the county assessor should request an amended listing of assets showing the original installed costs or the market-derived replacement costs new (RCN) at the appropriate retail “end user” trade level. In cases where the owner/representative does not provide a revised listing, costs that are not representative of reasonable market value at the appropriate retail “end user” trade level should be discarded in favor of researched comparable personal property values.

In Xerox Corporation v. Board of County Commissioners of the County of Arapahoe, 02CA2026 (October 9, 2003), the Colorado Court of Appeals concluded that, “various ARL provisions bolster the conclusion that the comparable sales price, rather than the manufacturer’s cost, is the appropriate starting point for the cost approach under 39-1-103(13).” It further stated, “the DPT’s interpretation comports with Colorado constitutional provisions requiring property to be assessed at its ‘actual value’ and promoting the principle of ‘equalized value.’”

Unique Personal Property

Occasionally, specialized industrial and other types of unique personal property are designed and manufactured within a company. In cases where the taxpayer has built a piece of personal property for which no comparables exist in the market, the taxpayer must estimate the cost of materials and labor used to build the personal property. In addition, estimates for freight to the point of use, installation charges, and sales/use tax must be added. The estimation procedure is to be used only when no comparable personal property exists in the market.

If comparable personal property exists and is being sold, the acquisition cost of the comparable personal property along with estimates of the costs of installation, sales/use tax, and freight to the point of use should be used to value the personal property. The same is true of personal property "acquired without monetary cost," e.g. trades.

The acquisition cost of comparable personal property being sold in the market or estimates of materials and labor required to build the personal property, along with the costs of installation, sales/use tax, and freight to the point of use is to be used to value personal property "acquired without monetary cost."

Bulk Sale of Personal Property Assets

When the sale of a business results in the transfer of most or all of the business's personal property assets to a new owner, this is known as a bulk sale of personal property assets. Providing the sale is an arm's length transaction and fairly represents the market value of the sold personal property, this sale of used personal property represents the acquisition cost to the new owner. For personal property which has reached its depreciated value floor, the value allocated from the bulk sale price is frozen, as stated under the topic ***Cost to Current Owner*** above. However, purchase prices, which are not representative of reasonable market value, should not be used. Instead, comparable equipment values should be researched and used in place of the unrealistic prices.

For personal property which has not reached its depreciated value floor, the value allocated from the bulk sale price is depreciated over a complete economic life appropriate to the item as though the item were new, as described under the topic ***Valuation of Used Personal Property*** in this chapter.

A special problem exists with machinery and equipment at car washes. When these businesses sell, a substantial amount of personal property is included in the selling price. In these cases, an allocation should be requested from the former owner as to the value of personal property included in the transaction. This allocation should be a regular part of the sales confirmation procedure for self-service or automated car washes. Once a number of these allocations is available, it may be possible to determine the value of personal property, as a percentage of all property transferred, without an allocation from the former owner. Also, these percentages may be used to determine BIA valuations for comparable properties.

COST APPROACH PROCEDURE

The steps in the cost approach for personal property valuation are:

1. Estimate Replacement Cost New (RCN).
2. Determine accrued depreciation.
3. Calculate Replacement Cost New Less Depreciation (RCNLD).
4. Adjust RCNLD to the June 30 level of value established for real property.

Estimate Replacement Cost New

In the cost approach, the assessor determines the cost of replacing the subject property, at current cost, with an item that is similar in function and utility. As noted above, this term is called Replacement Cost New (RCN).

The two methods used by assessors to estimate the RCN of personal property are:

1. Original installed cost trended by cost indices
2. Research of replacement cost new data from outside sources

Original Installed Cost Trended by Cost Index:

Original installed cost trending is the most commonly used method for estimating replacement cost new in Colorado. The method relies on original installed costs furnished by the taxpayer and is applicable in a mass appraisal approach to valuing personal property.

The RCN is estimated for personal property appraisals by multiplying the original installed cost of the subject by the appropriate cost index factor for the year of acquisition. The index, or trending factor, adjusts the original installed cost to the current cost of replacing the item with a similar item.

Price indices developed by Marshall and Swift have been compiled and published by the Division for use by all assessors. These indices show the specific rates and directions of price movements of various equipment categories. The base year for the Marshall & Swift indices is 1926. This means that the published factors are based upon 1926=100%. The indices measure the difference between 1926 costs and current year costs.

The Division of Property Taxation, through the courtesy of Marshall and Swift, converts the price indices into cost trending factors. The factors relate original installed costs, by equipment category, to current year costs. The factors are published annually so that assessors may use them to estimate the current replacement cost new of equipment. The factors are found in **Chapter 4, Personal Property Tables**.

Original installed cost trending has several limitations:

- The cost factors are designed to be used only during the economic life of the property. After the property has reached the end of its economic life, the factoring of original installed costs may lead to distorted RCN values.
- As property ages, the use of original installed cost multiplied by trending factors and percent good factors may not yield reasonable RCNLD values. Any RCNLD estimate should be cross-checked with market and income information sources and modified, if necessary.
- The cost factors are based upon broad surveys of equipment price levels conducted by the Marshall and Swift Company. This company uses the Producer Price Indexes published by the U.S. Department of Labor as well as other recognized national economic indicators to determine the trending factors.

Therefore, the Division has established a policy that once the "depreciated value floor" of an item of personal property has been reached, usually at 15 percent of RCN, this value becomes the designated value of the item. No RCN trending factors or depreciation factors are ever changed and the value does not change, other than to reflect the proper level of value, until the item is permanently taken out of service. An exception to this rule applies when the property has been reconditioned to extend its remaining economic life.

Even though an item of personal property has been permanently taken out of service, but has not been scrapped or sold, it still has value. However, additional functional and/or economic obsolescence may exist.

The cost factors published in this manual are intended for use with original installed costs submitted by the taxpayer. Each category factor is property specific rather than industry specific. Use of one factor is not intended for use with all property in a business unless the personal property cannot be classified as to the proper RCN factor table.

Determination of Current RCN From Outside Sources:

The replacement cost new of personal property is also estimated directly from market information published by outside sources. Typical sources of RCN information include the following:

- General Services Administration (GSA) List Prices
- Manufacturer Catalog List Prices
- Acquisition Costs of Similar Property
- Local Cost Surveys of Equipment Dealers
- Commercial Replacement Cost Manuals

GSA List Prices

The GSA, or General Services Administration, is the central purchasing and leasing agency for the federal government. Many manufacturers publish catalogs specifically for use by the federal government. These catalogs contain current selling prices and lease rates available to federal agencies from individual manufacturers. These manufacturers must be contacted to obtain their GSA price lists. At the time of contact, the manufacturers should be queried as to whether discounts from the listed prices are typically given.

The assessor must also take care that the items listed in the price list are comparable to the subject property. In addition, estimates for freight to the point of use, installation charges, and sales/use tax must be added. The GSA prices are current RCN prices and should not be trended using cost factors found in **Chapter 4, Personal Property Tables**.

Pricing Catalogs

Many manufacturers or distributors of equipment maintain current pricing catalogs for the retail trade. Price catalogs are similar to the GSA prices in that they contain current replacement costs for various types of equipment. Price catalogs are available from the manufacturers or distributors of the property.

The price lists give information about the replacement costs of certain items for the period of time in which the lists are valid. Supply catalogs such as J.C. Penney contain pricing information for common types of equipment.

The assessor must also take care that the items listed in the catalog or price list are comparable to the subject property. In addition, freight to the point of use, installation charges, and sales/use tax must be added. Catalogs, which are current on January 1 of the assessment year, provide the best information. Any current prices taken from any catalogs should not be factored using the cost trending factors found in **Chapter 4, Personal Property Tables**.

Acquisition Costs of Similar Property

Comparison with other personal property schedules will help to determine if the costs reported for similar property are accurate. This comparison can improve equalization between businesses. When the assessor analyzes and uses the costs typically reported within a business activity code, assessments will be more accurate and uniform because individual item price differences will be minimized. If the costs derived from this analysis are current replacement costs, they should not be factored using the RCN trending factors found in **Chapter 4, Personal Property Tables**.

However, if the costs are not current, they must be factored from the year of the comparable costs to the current assessment date. In this event, the year of the costs may or may not correspond to the taxpayer's year of acquisition. It is important that the assessor knows which information is in use and applies the correct trending and percent good (depreciation) factors.

Local Cost Surveys of Equipment Dealers

Assessors may also contact local equipment dealers to determine RCN. Local equipment dealers have current list prices available for various types of equipment. The assessor should contact these dealers and ask about the prices of certain types of equipment. This is especially useful as a check on the accuracy of reported costs and trended values. At the time of contact, the dealers should be queried as to whether discounts from the listed prices are typically given.

The assessor must also take care that the items listed by the dealers are comparable to the subject property. In addition, estimates for freight to the point of use, installation charges, and sales/use tax must be added.

Commercial Replacement Cost Manuals

Several companies publish pricing guides for personal property. These manuals are updated periodically and provide information for the assessor to use, especially in cases where no other information is available. These manuals include, but are not limited to, the following:

- Dun & Bradstreet, Inc.
Business Economics Division General Economic Information
99 Church Street
New York, NY 10007
- Computer Price Guide
75 South Greeley Avenue
Chappaqua, NY 10514
Used Computer Prices
- Marshall and Swift Publication Co.
P.O. Box 26307
Los Angeles, CA 90026
RCN Factors

- R.S. Means Company, Inc.
100 Construction Plaza
Kingston, MA 02364

RCN For Specific Equipment

Many of the companies charge a fee for the information contained in replacement cost manuals. However, payment of the fees usually entitles the purchaser to all updates or factors used in the manual. The manuals provide a valuable crosscheck to estimates of RCN.

Do not factor the prices listed in the replacement cost manuals using the cost trending factors found in **Chapter 4, Personal Property Tables**. Trending factors are furnished with the replacement cost manual by the publisher in order to trend manual RCN's to the current assessment date. Since these trending factors are specifically intended for use with the particular manual do not apply these factors to other manuals or to original costs declared by the taxpayer.

Determine Accrued Depreciation:

Accrued depreciation is the difference between the current replacement cost new and the present value of the equipment as of the date of the appraisal. Depreciation may be defined as follows.

Depreciation is "Loss in value of an object, relative to its replacement cost, reproduction cost, or original cost, whatever the cause of the loss in value..." according to Property Appraisal and Assessment Administration, IAAO, 1990, page 641.

The causes of accrued depreciation are divided into three categories:

1. Physical Depreciation (deterioration)
 - a. Wear and tear from use or from the elements
 - b. Negligent care or inadequate maintenance
 - c. Damage from moisture, breakage, or fire
2. Functional Obsolescence
 - a. Poor plan, design, or style
 - b. Mechanical inadequacy or superadequacy
 - c. Functional inadequacy or superadequacy due to size, style, age
 - d. Technological innovation
 - e. Changes in manufacturing techniques
 - f. Changes in consumer tastes
3. Economic Obsolescence
 - a. Adverse economic conditions
 - b. Passage of restrictive legislation
 - c. Loss of material or labor sources

Physical depreciation and functional obsolescence relate to deficiencies within the property itself. Deficiencies may be classified as either curable or incurable. The deficiencies are curable if the cost to repair, replace, or correct them is economically feasible. This cost to cure is economically feasible if the cost is equal to or less than the additional income which would be generated by the property after the deficiencies have been cured. The deficiencies are incurable if they are physically or economically impractical to repair, replace, or correct.

Economic obsolescence is due to negative forces outside the property. This type of depreciation is seldom curable and is generally classified as incurable.

Losses in value due to functional or economic causes are not related to the actual age of the property, but rather to changing market forces that affect the property. Physical depreciation is related more to its economic life, i.e. its full life assuming normal maintenance, rather than the actual physical age of the equipment. Therefore accrued depreciation is based upon economic life rather than physical life.

Depreciation, as used in appraisal, differs from depreciation as used in accounting. Accountants are interested in income tax deduction justification or allocation of the investment made in assets to various income producing activities (sometimes referred to as profit centers). In contrast, the assessor attempts to estimate the actual value of the asset as of the date of the appraisal.

The assessor must consider and document all elements of physical depreciation and functional and economic obsolescence as of January 1 each year before placing a value on personal property.

Measure Incurable Physical Depreciation:

Physical depreciation which is due to ordinary use of the property is incurable because it is economically impractical to bring the property to its original condition when new each year. In order to measure incurable physical depreciation, the assessor determines the total economic life, the effective age, the remaining economic life, and the appropriate depreciation amount to apply to the subject property. Remaining economic life is the number of years remaining in the economic life of the personal property as of the date of appraisal.

To make a supportable estimate of incurable physical depreciation, the assessor first determines the correct total economic life of the equipment being appraised.

Total economic life is the total period of time over which it is anticipated that equipment can be profitably used. It is described as the sum of the effective age and the remaining economic life. Total economic life is usually less than the physical life of the property. The Economic Life Estimates in **Chapter 4, Personal Property Tables**, are provided to assist in the estimation of total economic life.

Analysis of field data may indicate that the original estimate of economic life should be revised. The economic lives in this manual are generally accurate but there may be exceptions. The estimate of economic life of the property must be defensible, reasonable, and supported by documented evidence.

The following are characteristics of equipment that have long, average, and short term economic lives. They are provided as descriptions of the economic lives found in **Chapter 4, Personal Property Tables**.

Long-lived Equipment:

The characteristics of long-lived equipment are:

- Relatively large investment in relation to the value of the unit produced
- Occurrence in the heavy manufacturing processes such as metal, sugar, oil, paper, cement, stone, and milling
- Infrequent changes in the process, product, style, or function of the property or the industry
- Durability, characterized by a steady output, efficient operation, and normal operating costs over its economic life
- Difficulty in moving due to the special foundation or structures necessary for operation
- Tied to the economic life of the structure in which it is housed

Average-lived Equipment:

The characteristics of average-lived equipment are:

- Found commonly in business and industry
- Adaptability to change or technical advances
- Susceptibility to obsolescence in both style and function
- Ease of relocation (mobility)

Short-lived Equipment:

The characteristics of short-lived equipment are:

- High rate of total wear relative to replacement cost
- Rapid accrual of obsolescence due to advances in technical improvements and capabilities
- Lack of adaptability

Estimate Effective Age

The effective age of personal property is the age of the property as indicated by its condition and utility. Equipment that is not properly maintained, is used more extensively than the average, or due to technological advancement has diminished utility, may have an effective age greater than the actual age of the property. Conversely, equipment in better than average condition may have an effective age that is less than the actual age of the property.

Effective age may be determined from the declaration schedule submitted by the taxpayer and physical inspection of the property. Physical inspections are necessary to determine the use and condition of the property.

Determine Remaining Economic Life

Remaining economic life expresses the period of time remaining over which the subject property will provide a net return to the owner. In other words, it is the period of time from the date of the appraisal to the time when the property only has salvage value or is scrapped.

Remaining economic life is calculated by subtracting the effective age from the total economic life estimate.

Calculate Incurable Physical Depreciation to Arrive at % Good

The amount of incurable physical depreciation is calculated using the percent good table found in **Chapter 4, Personal Property Tables**. The percentage allowed for incurable physical depreciation plus the percent good equals 100%.

The percent good table measures the remaining value of property at given points in time during the total economic life of the property. The table found in **Chapter 4, Personal Property Tables**, generally measures loss in value attributable to typical physical depreciation, and functional/technological obsolescence. The table is not reliable in estimating losses in value due to atypical or extraordinary physical or functional/technological obsolescence or any economic obsolescence that may exist. Measurements of extraordinary functional loss in value or any economic loss in value are made separately, frequently using the income or sales comparison (market) approaches to value.

The percent good table is based upon composites derived from the experience of industries and studies by governmental agencies. The table is based on economic life and applies to equipment in average working condition for its effective age.

The equipment percent good table is designed to assist the assessor in estimating replacement cost new less normal depreciation (RCNLD). The column headings represent the typical economic life expectancy of the equipment under consideration. Each column shows the normal or typical percent good factor for each year of effective age of the equipment.

The procedure for using the percent good table is as follows:

1. Estimate total economic life.
2. Estimate effective age.
3. Multiply RCN by the percent good listed in the table that corresponds to the effective age of the item and its total economic life.

If, after physically inspecting the property, the assessor determines that the condition of the subject property is worse than average, an adjustment reducing the percent good applied to the property is made to account for this additional physical obsolescence. If the assessor determines that the condition of the subject property is better than average, an adjustment increasing the percent good applied to the property is made to account for this additional physical utility. The specific adjustment is based upon evidence from the market and should be documented on the appraisal record.

Measure Curable Depreciation & Functional Obsolescence

Curable physical depreciation and curable functional obsolescence are generally measured using the cost to cure method, i.e. the cost of curing or repairing the additional depreciation or obsolescence. Keep in mind that curable depreciation and obsolescence must be economically practical to cure. The cost to cure the deficiency is subtracted from the RCNLD estimate as a loss in addition to incurable physical depreciation.

Measure Incurable Functional and Economic Obsolescence

Incurable functional and economic obsolescence are estimated by either capitalizing the loss of income due to whatever causes exist at the time of the appraisal or by estimating that loss using direct sales comparison in the market.

The analysis and verification of increased operating costs, reduced economic income, or reduction in market value of a property provide the assessor with indicators that depreciation or obsolescence, over and above that published in age-life depreciation tables, may be warranted.

The court ruled in Colorado & Utah Coal Co. v. Rorex, 149 Colo. 502, 369 P.2d 796 (1962), that if economic obsolescence exists, it must be acknowledged and deducted.

Measuring Overall Depreciation Through Capitalization of Loss:

The assessor, in some cases, may be able to estimate the typical net income producing capabilities of the personal property being appraised. Then the actual diminished net income, from all causes of depreciation, is measured.

This difference in net income is capitalized using an overall capitalization rate (OAR), if possible. Even if the capitalization rate is developed using the band of investment or summation techniques as described in published appraisal texts and in **ARL Volume 3, LAND VALUATION MANUAL, Chapter 4, Valuation of Vacant Land Present Worth**, it must include return of investment, return on investment, and an effective tax rate.

The resulting capitalized value of the income loss from all causes of depreciation is subtracted from the estimate of the capitalized value of the income determined for a comparable property when new. This approach can only be applied when income can accurately be attributed to a single piece of equipment, as with a mobile hot dog stand. When income must be allocated to various pieces of equipment, this approach loses credibility and generally is not appropriate.

Isolating Extraordinary Functional & Economic Obsolescence:

The amount of diminished value from extraordinary functional and any economic obsolescence can be estimated using the direct sales comparison method. In using this method, the assessor estimates the value of property with the obsolescence using comparable obsolete property which has sold. If the calculated RCNLD value of the property is greater than the value indicated by the sales of obsolete properties, this difference is an indication of the value loss due to extraordinary functional and any economic obsolescence.

The assessor uses the direct sales comparison method to set up percent loss in value norms for different classes of properties within specific business activity codes. A percent loss in value factor for extraordinary functional and any economic obsolescence may be developed for a class of property within a business activity code and deducted from the calculated RCNLD after application of the percent good factors from the cost approach. The percent good factors in the cost approach account for incurable physical and some functional obsolescence.

A complete discussion of the techniques and theories behind depreciation is found in Chapter 8 of the Property Appraisal and Assessment Administration, IAAO, 1990.

Calculate Replacement Cost New Less Depreciation:

The assessor deducts accrued depreciation from the estimate of RCN. The result is commonly called Replacement Cost New Less Depreciation (RCNLD). RCNLD reflects the current actual value of the item of personal property.

RCNLD, as calculated using the tables in **Chapter 4, Personal Property Tables**, includes loss in value from physical causes and is the indicated current actual value determined by the cost approach. Additional value loss due to extraordinary physical and functional obsolescence or any economic obsolescence can be deducted if these circumstances can be documented.

RCNLD must be factored to the June 30 level of value in effect for real property prior to applying the 29 percent assessment percentage.

Valuation of Used Personal Property:

The valuation of used personal property requires that a decision be made concerning the remaining economic life of the property. If the personal property's elapsed age from its actual year of manufacture, or estimated effective year of manufacture, is equal to or greater than the number of years the personal property reaches its depreciated value floor, as evidenced in **Chapter 4, Personal Property Tables**, then the owner's acquisition cost for the personal property is to be treated as RCNLD and "frozen" at that value. The level of value will also be frozen value in the year that the item reaches its fully depreciated residual value.

An exception to this rule applies when the personal property is reconditioned to extend its remaining economic life. Then the reconditioned property is treated as a new item of personal property and the formerly frozen value is treated as acquisition cost that is subject to depreciation over a complete economic life of a new item.

Even though an item of personal property has been permanently taken out of service, but has not been scrapped or sold, it still has value. However, additional functional and/or economic obsolescence may exist.

If, however, the elapsed age from the year of manufacture, or estimated effective year of manufacture, is less than the number of years when the personal property would have reached its depreciated value floor, as evidenced in **Chapter 4, Personal Property Tables**, then the property is treated as a new item of personal property and the owner's acquisition cost is subject to depreciation over the complete economic life of a new item. The resulting value should be compared to comparable market values of the item, if such information is available.

SALES COMPARISON (MARKET) APPROACH

Colorado Revised Statutes, section 39-1-103(5)(a), requires that the actual value of personal property be determined by appropriate consideration of the cost approach, the sales comparison (market) approach, and the income approach. However, § 39-1-103(13), C.R.S., specifies that the value derived from the cost approach shall be the maximum value if the owner has timely filed a declaration which contains a full and complete disclosure of all personal property including costs of acquisition, installation, sales/use tax, and freight to the point of use. The sales comparison (market) approach is based on independent information gathered by the assessor and may be considered when it results in a lower value than the cost approach as required by § 39-1-103(13)(c), C.R.S. The assessor may use the sales comparison (market) approach either when there is sufficient comparable sales data and the resulting value is lower than that indicated by the cost approach or when the declaration schedule contains faulty or misleading information.

The sales comparison (market) approach is based upon the assumption that property value may be measured by analyzing what buyers pay for similar property. There is one method that is typically employed in the sales comparison (market) approach to the valuation of personal property and that is the comparable sales method.

COMPARABLE SALES METHOD

The comparable sales method involves analysis of market sales of comparable properties and possibly of the subject property itself. It provides an indication of what people in general are willing to pay for a given type of property at the time of sale, i.e. the market value of the property. Refer to the ***Bulk Sale of Personal Property Assets*** under the topic ***Types of Cost*** and to ***Sources of Data*** under the ***Comparable Sales Method*** topic, both in this chapter.

The Appraisal Institute's definition of market value is derived from Sacramento Southern R.R. C. v. Heilbron, 156 Cal 408, 104 P. 979 (1909).

The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self interest, and assuming that neither is under undue duress.

The procedure for the direct sales comparison method is as follows:

- Step 1 - Collect and confirm comparable sales data
- Step 2 - Select appropriate units of comparison
- Step 3 - Adjust comparable sales data using market data
- Step 4 - Array and analyze the adjusted comparable sales data
- Step 5 - Estimate the current actual value of the subject

Collect and Confirm Comparable Sales Data

Before the sales comparison (market) approach can be used on personal property, two conditions must exist:

1. There must be personal property comparable or similar to the subject.
2. Reliable sales data must exist for the comparables.

The assessor gathers current market sales for personal property being appraised. Current sales include transactions occurring during the twelve months preceding the assessment date. These transactions must include, in addition to acquisition price paid by the current owner, adjustments for the cost of installation, sales/use tax, and freight to the point of use.

Current sales are gathered because §§ 39-1-103(5)(a) and 39-1-104(12.3)(a)(I), C.R.S., require the estimation of current actual value of personal property before adjustment of that actual value to the June 30 appraisal date for real property.

Local, regional, state, or national sales data may be used. It may not be sufficient, when gathering market sales for personal property, to restrict the marketplace to an individual town or county. The personal property market is unique in that personal property is movable and has use in many locations. The assessor should attempt to obtain and analyze data from wherever the market exists for the personal property.

After sales of comparable properties have been gathered, the assessor must confirm them to ascertain whether or not they are arm's-length transactions. Confirmation should be made in writing, if possible, and may be accomplished through the buyer, the seller, equipment dealers, auctioneers, or brokers.

Verified sales should be given more weight than those sales where confirmation was initiated, but no verification could be acquired. It is important that the assessor note how the sales information was verified and how familiar the person was with the property.

Minimum Standards for Sales Data:

The following are the minimum requirements for the sales data used in the sales comparison (market) approach:

1. Date of sale
2. Sale Price
3. Condition of the sold property
4. Age of the sold property
5. Location of the sale
6. Buyers' and sellers' names and addresses
7. Special terms of the sale, if any
8. Complete description of the sold property

9. Any unusual conditions surrounding the sale

All of the information must be considered together as part of the valuation of the subject property.

Sources of Data:

There are several sources of comparable market data. The first source is the taxpayer. The acquisition cost of the property may provide the assessor with reliable market information for the date when the item was first acquired. Other taxpayers with similar property can provide market information for the same type of items. Once a database has been established, the assessor analyzes it to see if any trends emerge which indicate the actual value of the subject property. This analysis is useful for all types of property similar to the property in the database.

For personal property items that, due to supply and demand imbalance, are oversupplied in the market, obsolescence is frequently reflected in auction sales prices. This is true only when auctions are the market for this equipment, i.e. when there are few, if any, resales of such equipment outside of an auction environment. Auction sales of personal property may provide reasonable value estimates provided that auctions are held to sell equipment in the normal course of the trade. If these transactions do not include installation, sales/use tax, and freight to the point of use, in addition to acquisition price paid by the current owner, adjustments to the value for these items must be made.

Auction sales resulting from seller financial duress or involuntary liquidation of assets are used only in rare instances where no other sales exist or when no other sales have taken place in the recent past. Bankruptcy or forced liquidation auctions may only give evidence of liquidation value instead of actual value. The assessor is appraising property at market value not at liquidation value.

Comparables from auction sales must be carefully researched before being used to establish the actual values of other property.

Used equipment guides may indicate the market value of used equipment. Since some guides report values for disassembled, non-installed properties, the assessor must determine if the used values include installation, sales/use tax, and freight to the point of use. If these transactions do not include installation, sales/use tax, and freight to the point of use, in addition to acquisition price paid by the current owner, adjustments to the reported value for these items must be made.

Documentation as to the methodology used in determining the used equipment values and the sources for this data should be requested before considering the value as an indication of market value. The comparability of the property listed in the equipment guide to the subject property also must be determined.

Select Appropriate Units of Comparison

The assessor determines an appropriate unit of comparison for the subject and the comparable properties. Personal property units of comparison may include the following:

- Model number
- Equipment type and production output per time period
- Capacity and special accessory items
- Horsepower
- Weight

Any meaningful unit of comparison may be used so long as it allows the assessor to analyze subject and comparable properties on the same basis. Discussions with equipment manufacturers, equipment dealers, and equipment leasing companies may assist the assessor in determining appropriate units of comparison.

Adjust Comparable Sales Data Using Market Data

Before adjusting sales, any differences between comparable properties and the subject property must be identified. The adjustment process accounts for differences between properties so that the comparable market data is made more similar to the subject. Types of adjustments which may be required are as follows:

- Financial terms of the sale
- Time of sale
- Location of sale
- Physical characteristics of the property (including capacity)
- Condition of the property
- Brand name
- Extra accessory items

Based on the effects of the market, there may be no adjustment for a specific difference. The assessor must investigate the marketplace to determine which differences in the property actually affect value.

Adjustments are always made to the comparable property sales prices and never to the subject.

Adjustments may be made in one of two ways:

1. Percentage amounts
2. Dollar amounts

Percentage Adjustments:

A percentage adjustment is made by adjusting the sales prices of other comparable properties by specified percentages of the sales price. The actual percentages used are derived from the market. Comparable property sales which are superior to the subject must be adjusted downward and comparable property sales which are inferior to the subject must be adjusted upward. Time adjustments, if applicable, must be made first because all sales must be on an equivalent basis before other adjustments can be made.

Example: Assume Item A recently sold for \$20,000. The market indicates Item B, the item you are appraising, sells for 20 percent more than Item A because it is in better condition. Using only this information, what would be your estimate of Item B's value?

Answer: $\$20,000 + (.20 \times \$20,000) = \$24,000$

Example: Assume Item A recently sold for \$20,000. The market indicates Item A is ten percent better than Item B because Item A is in better condition. Using only this information, what would be your estimate of Item B's value?

Answer: $\$20,000 - (.10 \times \$20,000) = \$18,000$

Percentage adjustments may be determined by studying economic trends, price level changes, information from personal property manufacturers and dealers, or from the database of sales collected by the county assessor. Analysis of sufficient data should yield percentage value changes that may be applied to comparable property sales prices to estimate subject property value.

Dollar Adjustments:

Dollar adjustments are made in the same way as percentage adjustments except that actual dollar amounts are used. The amount of the adjustment is determined from the market.

Example: Assume Item A recently was sold for \$20,000. The market indicates Item B, which you are appraising, sells for \$4,000 more than Item A because it is in better condition. Using only this information, what would be your estimate of Item B's value?

Answer: $\$20,000 + \$4,000 = \$24,000$

Note the similarity of the methodologies used in the two examples. The estimated value of the subject in both cases is the same.

The type of adjustments that should be made will depend on the data available and the judgment of the assessor.

A step-by-step example of the comparable sales method for the valuation of personal property is shown below.

STEP 1 - COLLECT AND CONFIRM COMPARABLE SALES DATA

Market data is collected, confirmed, and arrayed according to type of equipment, age, date of sale, and by units of comparison that may exist. An array is a grouping of data in a specific order that facilitates analysis in such a way that comparisons and relationships between the data may be identified and quantified. The following is an example of a worksheet array of raw sales information.

Example:

Sales Analysis, Personal Computers January 1, 1989					
Type Capacity	Sale Date	Sale Price	Location	Verified With	
IBM PC XT	8-88	\$3,000	Denver	Buyer	256K
IBM PC XT	12-88	\$5,000	Boulder	Seller	512K
IBM PC XT	10-88	\$3,500	Denver	Buyer	256K
Tandy ST1000	11-88	\$3,400	Littleton	Buyer	256K
IBM PC XT	12-88	\$3,300	Denver	Seller	256K
Tandy ST1000	10-88	\$5,500	Boulder	Buyer	512K
Compaq Port.	9-88	\$2,500	Longmont	Buyer	256K
AT&T PC 6300	12-88	\$5,600	Denver	Buyer	512K

STEP 2 - SELECT APPROPRIATE UNITS OF COMPARISON

From this point the sales data are analyzed and market comparisons are made. The array facilitates analysis by displaying the data in a form that can quickly be sorted and analyzed.

The value ranges per unit of comparison that are established are ultimately used to establish indicators of market value. In this example analysis, the unit of comparison selected is the memory capacity of each unit expressed as multiples of "K". A "K" is a kilobyte or 1000 bytes of memory, as shown in the Capacity column.

STEP 3 - ADJUST COMPARABLE SALES DATA USING MARKET DATA

Sales prices adjusted for installation, sales/use tax, and freight to the point of use, if necessary, are used in the arrays to establish value ranges for various items of equipment.

In this example, all sales include freight to the point of use and sales tax, and installation is the customer's responsibility. Therefore, no adjustments are necessary.

STEP 4 - ARRAY/ANALYZE THE ADJUSTED COMPARABLE SALES

The price paid for each K of memory can be calculated by dividing the sales price by the listed memory capacity. A range of values per unit emerges.

Example:

Sales Analysis, Personal Computers January 1, 1989					
Type	Sale Date	Sale Price	Location	Capacity	Price/K
IBM PC XT	8-88	\$3,000	Denver	256K	\$11.72
Compaq Port.	9-88	\$2,500	Longmont	256K	\$ 9.77
IBM PC XT	10-88	\$3,500	Denver2	56K	\$13.67
Tandy ST1000	11-88	\$3,400	Littleton	256K	\$13.28
IBM PC XT	12-88	\$3,300	Denver	256K	\$12.89
Tandy ST1000	10-88	\$5,500	Boulder	512K	\$10.74
IBM PC XT	12-88	\$5,000	Boulder	512K	\$ 9.77
AT&T PC 6300	12-88	\$5,600	Denver	512K	\$10.94

STEP 5 - ESTIMATE THE CURRENT ACTUAL VALUE OF SUBJECT

From the data presented, a conclusion could be reached that the typical price per K of memory for this type of computer is \$12.00 per K for 256K machines and \$10.00 per K for 512K machines. This analysis must be performed yearly to keep the market indicators current.

After the current actual value of the subject has been determined, the assessor makes adjustments for installation, sales/use tax, and the cost of freight to the point of use, if these were not included with the acquisition price paid by the current owner. The assessor's judgment and experience are involved in analyzing the values to estimate the final value. The value of the subject property must be reasonable, defensible, and documented.

Market indicators are used in the valuation of similar types of property for the current assessment year. Market indicators also provide a tool which can be used in checking cost approach depreciation estimates. And, they can be used for comparison with the value estimates developed using the cost and income approaches to value before a final value estimate is made. Market indicators can be especially useful with properties subject to a high degree of functional or economic obsolescence.

INCOME APPROACH

Colorado Revised Statutes section 39-1-103(5)(a), requires that the actual value of personal property be determined by appropriate consideration of the cost approach, the sales comparison (market) approach and the income approach. However, § 39-1-103(13), C.R.S., specifies that the value derived from the cost approach shall be the maximum value if the owner has timely filed a declaration which contains a full and complete disclosure of all personal property, including the costs of acquisition, installation, sales/use tax, and freight to the point of use. The income approach is based on independent information gathered by the assessor and may be considered when it results in a lower value than the cost approach as required by § 39-1-103(13)(c), C.R.S.

The assessor may consider the income approach either when there is sufficient income data and the resulting value is lower than that indicated by the cost approach or when the declaration schedule contains faulty or misleading information.

Income analysis yields an estimate of the present value of future net benefits to be derived from a property. This approach is based on the premise that the price paid for property is dependent on the future net benefits to be derived or investors' estimates of what those future net benefits will be. The procedure for the income approach is as follows:

1. Estimate gross income.
2. Deduct allowable expenses to calculate net income.
3. Determine capitalization rate or gross rent multiplier.
4. Capitalize net income into value.

ESTIMATE GROSS INCOME

In using the income approach, the assessor first measures the economic income (rental or lease amounts) for comparable properties. Economic rental data can be gathered from actual rental data observed in the market. In cases where no rental rates can be established, it is very difficult to accurately value property using the income approach.

The assessor estimates the gross economic income for the property being appraised by gathering current rental or lease information from the books and records of taxpayers leasing or renting personal property.

The assessor also contacts equipment dealers or lessors to determine typical rental or lease rates for various types of equipment. The assessor measures gross income to the property, not to the business enterprise, and it must be clear that the income stream being measured is attributable only to the personal property.

In situations where the income stream is attributable to the entire business enterprise, including income for land, improvements, intangibles, and personal property, the assessor cannot allocate the income to the various components before attempting to value the personal property. The income attributable to the personal property must be capable of being isolated or the income approach should not be used to value the personal property.

The following are term definitions found in The Dictionary of Real Estate Appraisal, Appraisal Institute, Third Edition, 1993:

- **Rent** - Rent is an amount paid for the use of land, improvements, or a capital good.
- **Profit** - Profit is the amount by which the proceeds of a transaction exceed its cost. The income approach requires that the assessor only estimate the income attributable to the property being appraised, not to the entire business. Indeed, a business can operate at a loss instead of a profit, but this does not mean that the property used by the business has a negative value. The income measured by the assessor is the income attributable to the personal property, not business income. Therefore, the term profit is not used as a measure of the value of personal property.

- **Contract Rent** - Contract rent is the actual rental income specified in a lease.
- **Economic Rent** - Economic rent, in appraisal, is a term sometimes used as a synonym for market rent. Economic rent is sought in the income approach because it is the rent justified for the property on the basis of comparable rental properties and upon past, present, and projected future rents of the subject property. It is customarily stated on an annual basis.
- **Gross Income** - Gross income is income from the operation of a business or the management of property, customarily stated on an annual basis. This means the gross income that could be generated by the property on an annual basis. It is based on the economic rent determined from the analysis of rental rates of similar personal property, not the actual contract rent generated by the subject property.

DEDUCT ALLOWABLE EXPENSES TO CALCULATE NET INCOME

The assessor deducts current, typical, operating expenses from the gross income to estimate net income. The expenses deducted from the gross income must be typical for the type of property being appraised. The following expenses are generally allowable.

1. Management
2. Salaries
3. Repairs and maintenance
4. Insurance (if provided by the lessor)

There are other expenses that are not allowable expenses for deduction from gross income. These include the following:

1. Depreciation
2. Debt service
3. Income taxes
4. Capital improvements & expenditures
5. Owner's business expenses

A complete discussion of the expenses to be deducted from gross income is found in Chapter 10 of the Property Appraisal and Assessment Administration, IAAO, 1990.

After the assessor deducts the allowable expenses from gross income, the result is the estimate of net income. It is this estimate of net income that is capitalized into value. The net income is one of the critical components in the income approach to value. The other critical component is determination of the capitalization rate.

DETERMINE CAPITALIZATION RATE

The capitalization rate is that rate which converts income into an indication of value. It is made up of the following:

1. Discount Rate
2. Recapture Rate
3. Effective Tax Rate

In other words, the rate used to convert income into value is made up of those rates that reflect return on investment, return of investment, and the effective tax rate.

There are several methods used to determine capitalization rates. The data used in developing capitalization rates directly from the market include current typical income and expense data and market sales data. Data used in developing capitalization rates using other techniques include the rates of return expected by typical investors and by lenders, rates developed for recapture of the original investment, and effective tax rates. The techniques for the determination of the capitalization rate are fully discussed in the Chapter 12 of Property Appraisal and Assessment Administration, IAAO, 1990.

CAPITALIZE NET INCOME INTO AN INDICATION OF VALUE

There are three fundamental elements in the income approach: the property value (V), the net income from the property (I), and the rate of return on the investment (R). The relationship of these three quantities is expressed in three formulas, which are really three different arrangements of the same formula:

- Formula 1: $V \times R = I$
 Formula 2: $I \div V = R$
 Formula 3: $I \div R = V$

"V" and "I" are expressed in dollars. "R" is usually expressed as a percent, but in computations it should always be converted to decimal form. If the rate of return is 18 percent, it should be expressed as 0.18 for use in computations.

Example:

1. If the property value is \$50,000 and the capitalization rate is 12 percent, what is the net income?

Answer: \$6,000 (formula 1: $\$50,000 \times .12 = \$6,000$).

2. If net income is \$20,000 and the property value is \$100,000, what is the rate?

Answer: 20% (formula 2: $\$20,000/\$100,000 = 0.20$)

3. If net income is \$18,000 and the overall rate is 15 percent, what is the property value?

Answer: \$120,000 (formula 3: $\$18,000/0.15 = \$120,000$)

If any two of the three quantities V, I, or R are known, the third value can be determined by using the appropriate formula.

The actual value of personal property in the income approach is estimated by dividing the net income by the capitalization rate. The result is the estimate of actual value for the current assessment year. The following formula that is used to accomplish this was mentioned earlier in this chapter.

Formula 3: $I \div R = V$

or Income divided by the Capitalization Rate equals Value

The estimate of value from the income approach must include the cost of freight to the point of use, installation, and sales/use tax, in addition to acquisition price paid by the current owner, or adjustments for these costs must be made.

Finally, the estimate of value from the income approach is adjusted to the level of value in effect for real property using the adjustment factor found in **Chapter 4, Personal Property Tables**.

FINAL ESTIMATE OF VALUE

After the assessor has determined the indicators of value from the applicable approaches, the current actual value must be determined and carried through to final assessed value. The abundance, reliability, and relevance of the available data, as well as, the values estimated by each approach, will help determine which approach is the most defensible.

The step in the appraisal process wherein the assessor determines the current actual value is called reconciliation.

RECONCILIATION

The actual value is determined using that estimate which can most readily be defended under the Colorado Revised Statutes. The reconciliation of all available valuation data will indicate which approach to value should be used for an individual property.

When the value indications from the three approaches have been determined, a reconciliation is made. Typically the value indications from the three approaches will not be the same. The best value estimate must be judged according to the following:

1. Requirements of the Colorado Revised Statutes
2. The amount and reliability of the data considered in each approach
3. The strengths and weaknesses of each approach
4. The relevancy of each approach to the subject property

As previously indicated, § 39-1-103(13), C.R.S., provides that the value derived from the cost approach shall be the maximum value of the personal property if the owner has filed a timely declaration which contains full and complete disclosure pertaining to the valuation of the property. Once these conditions have been met, values derived from the market and income approaches can be considered, but can only be used if they result in a lower value than the value estimated from the cost approach.

It is not acceptable to average value indications. Rather, the assessor relies upon the data that are superior in quality, quantity, and defensibility. If the data collected and analyzed do not support a reasonable estimate of value, the assessor must re-evaluate some or all of the appraisal data before a final estimate of value is made.

The final estimate of value usually is based upon taxpayer-submitted information. Under certain circumstances, the final value estimate may be based upon the "Best Information Available" (BIA). After establishing the actual value for the personal property as of the assessment date, the level of value adjustment factor must be applied to trend the personal property actual value back to the level of value in effect for real property as required by § 39-1-104(12.3)(a)(I), C.R.S. Refer to **Chapter 4, Personal Property Tables**.

BEST INFORMATION AVAILABLE VALUATION

The assessor must value all taxable personal property even though no information has been received from the taxpayer. Failure by the assessor to receive a declaration schedule does not invalidate the assessor's valuation, § 39-5-118, C.R.S. Any valuation made without the receipt of the declaration schedule is known as a "Best Information Available" (BIA) valuation. Any valuation determined by BIA generally is not capable of adjustment through the abatement process. In Property Tax Administrator v. Production Geophysical et al., 860 P. 2d 514 (Colo. 1993), abatements for BIA values in excess of what should have been reported, had the taxpayer filed a declaration schedule, were disallowed. An exception to this general rule is provided in § 39-10-114(1)(a)(I)(D), C.R.S., if the following conditions are met, the taxpayer retains the right to file an abatement petition:

1. The taxpayer must have withdrawn from or failed to further pursue the available personal property protest and appeal remedies, and
2. The assessor must have mailed a notice of determination concerning the protest, and
3. The assessor must have performed an audit of the taxpayer's personal property that indicates an overvaluation of the property.

BIA valuations are also made in cases where the owner of the property cannot be determined after due diligence. The assessor may list such property on the tax roll as "owner unknown" as permitted by § 39-5-102(2), C.R.S.

Taxpayers are always notified when a BIA valuation is made. Usually BIA valuations are made prior to the June 15 Notice of Valuation (NOV) deadline. Only in the case of omitted property can a BIA valuation be made after June 15. The assessor uses the Special Notice of Valuation (SNOV) and allows the taxpayer 30 days in which to protest such omitted property valuations. During the protest of any BIA valuation, the assessor should require the taxpayer to submit the personal property declaration schedule or an itemized listing of personal property for the year being protested. If the taxpayer refuses to submit the schedule or list, the protest is denied.

If the taxpayer owns personal property in excess of \$2,500 in total actual value per county and does not file a property declaration schedule by the April 15th deadline or if the taxpayer requests either a 10 or 20 day filing extension, and fails to meet the extended deadline, the assessor makes a BIA valuation and adds a late filing penalty as required by § 39-5-116, C.R.S. Taxpayers owning personal property of \$2,500 or less in total actual value per county are not required to file personal property declaration schedules, as this property is exempt from property taxation pursuant to § 39-3-119.5, C.R.S.

Under certain circumstances the assessor may add, in addition to a late filing penalty, a penalty valuation for omitted property discovered after the assessment date as permitted by § 39-5-116(2)(a), C.R.S.

The penalty valuation for omitted property may only be added if specific items of personal property have been omitted. Therefore, the BIA valuation must be based on an itemized list of personal property and associated values which are typical of a business of this type. Refer to the topic *Penalties* in this chapter.

ESTIMATING ACTUAL VALUE

If an itemized list was submitted in previous years, or if the property was subject to a physical inspection during the last performance analysis, the assessor may already have sufficient information to determine the value. In all cases, BIA valuations should only be made after research or comparison of the subject property with the valuations of similar properties.

A BIA valuation is not an arbitrary valuation, an excessive valuation, or a penalty imposed upon the taxpayer. The only statutory penalties that the assessor may attach to personal property are found in § 39-5-116, C.R.S. There are no statutory provisions for the assessor to knowingly overvalue personal property.

DATA SOURCES

The assessor has a variety of data sources available when determining values according to the "Best Information Available" (BIA). They include the following:

Comparable Property Records

The property declaration schedules and related appraisal records of comparable or like properties will usually provide the assessor with certain equipment characteristics and value ranges for a given type of business.

Subject Property Records

Other sources of data include assessment and related accounting records for the same business from previous years. These records may be used in valuing the business this year based on the best information available. If proper allowances are made for normal trends regarding additions and deletions, a business may be its own best comparable when estimating BIA values for the current assessment year.

Supply Catalogs

Supply or sales catalogs for equipment furniture and machinery can provide the assessor with price ranges. A list of supply catalogs was previously provided in this chapter.

Appraisal Manuals/Industry Guides/National Averages

Many appraisal manuals contain appraisal procedures, theories, and techniques along with personal property pricing information. In addition, typical values for equipment are available in industry guides. Many of these guides are available in public libraries.

PENALTIES

Penalty for Late Filing

A late filing penalty may be applied in the following circumstances:

Failure to file schedule - failure to fully and completely disclose.

(1) If any person owning taxable personal property to whom one or more personal property schedules have been mailed, or upon whom the assessor or his deputy has called and left one or more schedules, fails to complete and return the same to the assessor by the April 15 next following, unless by such date such person has requested an extension of filing time as provided for in this section, the assessor shall impose a late filing penalty in the amount of fifty dollars or, if a lesser amount, fifteen percent of the amount of tax due on the valuation for assessment determined for the personal property for which any delinquent schedule or schedules are required to be filed. Any person who is unable to properly complete and file one or more of such schedules by April 15 may request an extension of time for filing, for a period of either ten or twenty days, which request shall be in writing and shall be accompanied by payment of an extension fee in the amount of two dollars per day of extension requested. A single request for extension shall be sufficient to extend the filing date for all such schedules which a person is required to file in a single county. Any person who fails to file one or more schedules by the end of the extension time requested shall be subject to a late filing penalty as though no extension had been requested. Further, if any person fails to complete and file one or more schedules by April 15 or, if an extension is requested, by the end of the requested extension, then the assessor may determine the actual value of such person's taxable personal property on the basis of the best information available to and obtainable by him and shall promptly notify such person or his agent of such valuation. Extension fees and late filing penalties shall be fees of the assessor's office. Penalties, if unpaid, shall be certified to the treasurer for collection with taxes levied upon the person's property.

§ 39-5-116, C.R.S.

Penalty for Failure to Fully & Completely Disclose Personal Property

A penalty for failure to fully and completely disclose personal property may be applied in the following circumstances:

Failure to file schedule - failure to fully and completely disclose.

(2)(a) If any person owning taxable personal property to whom two successive personal property schedules have been mailed or upon whom the assessor or his deputy has called and left one or more schedules fails to make a full and complete disclosure of his personal property for assessment purposes, the assessor, after notifying the person of his failure to make such a full and complete disclosure and allowing such person ten days from the date of notification to comply, shall, upon discovery, determine the actual value of such person's taxable property on the basis of the best information available to and obtainable by him and shall promptly notify such person or his agent of such valuation. The assessor shall impose a penalty in an amount of up to twenty-five percent of the valuation for assessment determined for the omitted personal property. Penalties, if unpaid, shall be certified to the treasurer for collection with taxes levied upon the person's personal property. A person fails to make a full and complete disclosure of his personal property pursuant to this paragraph (a) if he includes in a filed schedule any information concerning his property which is false, erroneous, or misleading or fails to include in a schedule any taxable property owned by him.

(b) Any person who makes full and complete disclosure on the first personal property schedules issued to him on or after August 1, 1987, shall not be assessed a penalty for property previously omitted from the assessment rolls under this article.

(c) Any person subject to paragraph (a) of this subsection (2) shall have the right to pursue the administrative remedies available to taxpayers under this title, dependent upon the basis of his claim.

§ 39-5-116, C.R.S.

The penalty valuation for omitted property may only be added if specific items of personal property have been omitted. Therefore, the BIA valuation must be based on an itemized list of personal property and associated values which are typical of a business of this type.

When the value of the property is declared or listed during a subsequent physical inspection, if the actual value of the personal property is determined to be more than the BIA assessment due to specific items of personal property not being included in the BIA valuation, then a penalty of up to 25 percent of the omitted items' value is added to the BIA assessed value. The assessor must notify the taxpayer of the failure to make full and complete disclosure and allow the taxpayer ten days to comply before actually placing the penalty on the omitted property value. The penalty valuation is applied only for the assessment year that the assessor discovers that the taxpayer has failed to make a full and complete disclosure.

The assessor immediately bills the taxpayer the penalty, which can be up to 25% of the BIA assessed value of the undeclared omitted property.

The assessor should maintain written documentation regarding the percentage used for the penalty because the penalty should be uniformly applied.

Omitted property can be valued for each of the past six years providing the failure to collect tax on the property was not due to an error or omission of a governmental entity, § 39-10-101(2)(b)(II), C.R.S. If the taxes were not collected because of an error or omission on the part of a governmental entity, taxes for any period, together with any interest thereon, shall not be assessed for a period of more than two years after the tax was or is payable.

Example:

Assessment Date:	January 1, 2005
Date of Acquisition/First Use:	December 20, 2000
2005 Omitted Assessed Value:	\$1,000
Property Item Valuations not included in the BIA:	
<u>Assessment Year</u>	<u>Omitted Assessed Value</u>
2001 (no penalty)	\$1,200 assessed value
2002 (no penalty)	\$1,150 assessed value
2003 (no penalty)	\$1,100 assessed value
2004 (no penalty)	\$1,050 assessed value
2005 (25% penalty derived)	\$1,000 assessed value
Penalty of 25% of the \$1,000 Assessed Value = \$250 penalty billed	

In the example, declaration schedules were mailed to the taxpayer for the years 2001-2005. The assessed value of the omitted property changes each year because additional depreciation is deducted. The penalty assessment is only applied in the current assessment year 2005, since it is applied only in the year of discovery and only if the owner fails to make full and complete disclosure. The penalty may be applied for this one year only and no penalty may be carried forward into subsequent assessment years.

SPECIAL CONSIDERATIONS

Annually, about 10 percent or more of the owners of personal property fail to timely file personal property declarations with the county assessor. These property owners create a large volume of BIA valuations immediately prior to Notice of Valuation deadlines. For the majority of these properties, physical inspection is the best way to establish an accurate value. As many physical inspections as possible should be made before setting BIA valuations.

Any properties not physically inspected are then valued using BIA methods based upon comparable business data. The assessor makes BIA valuations based on current cost, market, or income information. All estimates of value are adjusted to the level of value in effect for real property using the published factors.

A complete discussion of the physical inspection is found in **Chapter 5, Appraisal Performance Analysis**.

LEVEL OF VALUE

All property valuations in Colorado are made at a statutory level of value.

PERSONAL PROPERTY

All estimates of actual value for personal property are adjusted to the level of value in effect for real property. The Property Tax Administrator publishes factors to adjust all personal property valuations to the correct level of value as required by 39-1-104(12.3)(a)(I), C.R.S. The adjustment factors are found in **Chapter 4, Personal Property Tables**.

ASSESSMENT RATE

Based upon section 3 of article X of the Colorado Constitution and § 39-1-104(1), C.R.S., all estimates of actual value for personal property are multiplied by 29% to yield assessed valuation.

VALUATION INFORMATION FOR TAXPAYER REVIEW

Colorado Revised Statutes section 39-5-121.5, requires that all information and documentation, including sales information obtained from all sources, used to determine a valuation be made available to the taxpayer. In addition, § 39-8-107(4), C.R.S., prohibits the assessor from using any confidential information which is not available for review by the taxpayer unless such confidential data is presented in such a manner that the source cannot be identified.

At the written request of any taxpayer or taxpayer's agent, the assessor must make available the data used in determining the actual value of any property owned by the taxpayer within seven (7) working days following the written request. Upon receiving the request, the assessor must immediately advise the taxpayer or agent of the estimated cost of providing the data. The intent of the statute is that the assessor immediately estimates the cost because payment must be sent to the assessor prior to providing the data. Once the data is gathered, the assessor can choose whether the data is mailed, faxed, or sent by electronic transmission to the taxpayer or agent. If the estimated cost was lower than actual costs, the assessor may include a bill with the data for any reasonable cost above the estimated cost subject to the statutory maximum. The additional costs are due and payable upon receipt of the data according to § 39-5-121.5, C.R.S.

Pursuant to § 24-72-205, C.R.S., the statutory maximum is \$1.25 per page unless actual costs exceed this amount. The statute delineates how the charges may be calculated. For additional information regarding this issue, refer to **ARL Volume 2, ADMINISTRATIVE AND ASSESSOR'S DUTIES AND RELATIONSHIPS, Chapter 1, Overview of Assessor's Duties and Relationships**.

If the Computer Assisted Mass Appraisal (CAMA) process is used to determine values, all information used to create the valuation model must also be made available for review by the taxpayer. However, confidential information must be compiled and presented in such a manner that the source of the information cannot be identified. It is suggested that summaries of sales and income data for the various economic areas in the county be prepared. For example, a summary of market sales of office desks would reflect market values ranging from \$X to \$Y.

It is important that the assessor ensure confidentiality in all cases. All information entered or attached to the DS 056 Personal Property Declaration Schedule and any other declaration schedule is confidential information. This information includes any detailed listing of property reported by a prior owner, whether or not valuations of the property are shown.

Information, both confidential and otherwise, should be summarized and ready for distribution prior to the taxpayer protest period. This will allow ample time to summarize confidential Personal Property Declaration Schedule information, yet supply the taxpayer all information to which the taxpayer is entitled. For additional information concerning confidentiality requirements, see **Chapter 2, Discovery, Listing, and Classification.**

COMPLIANCE REQUIREMENTS

The State Board of Equalization standard for the median assessment ratio for personal property statistical compliance is .90 - 1.10.

Additional required procedures are as follows:

1. Establish and follow a personal property audit plan such as the one described in **Chapter 5, Addendum 5-A, Personal Property Audit Standards.**
2. The aggregate ratio will be determined solely from those personal property accounts physically inspected by the assessor. The minimum sample is 1% or 10 schedules; and the maximum sample is 100 schedules.

SUMMARY

Chapter 3, Valuation Procedures, discusses the valuation requirements and procedures used by county assessors for determining the actual and assessed values for personal property. The approaches to value which are considered by the assessor include:

1. Cost
2. Sales Comparison (Market)
3. Income

All personal property is valued as of the current assessment date and factored to the real property level of value using the factors found in **Chapter 4, Personal Property Tables.** The assessment rate used for all personal property is 29% as required by § 39-1-104(1), C.R.S.

CHAPTER 4

PERSONAL PROPERTY TABLES

The personal property tables chapter contains the replacement cost factors, economic life estimates, and percent good tables that are provided to assist county assessors in valuing personal property by the cost approach. The level of value adjustment factors are provided pursuant to § 39-1-104(12.3), C.R.S., and must be used to factor assessment date actual values of personal property to the level of value (as of the appraisal date) in effect for real property.

The tables and factors published here are subject to verification in the marketplace. All cost approach value estimates are based upon the factors and tables found in this section. Cost approach value estimates must be reconciled to the market and income approaches to value based upon the appraiser's opinion as to the reliability of the information used to derive the value estimates from each approach. Reconciliation of the applicable approaches to value is required for the valuation of all personal property in Colorado.

Actual Value Determined When.

(13)(a) ...the cost approach shall establish the maximum value of property if all costs incurred in the acquisition and installation of such property are fully and completely disclosed by the property owner to the assessing officer.

(c) ...However, nothing in this subsection (13) shall preclude the assessing officers from considering the market approach or income approach to the appraisal of personal property when such considerations would result in a lower value of the property and when such valuation is based on independent information obtained by the assessing officers.

§ 39-1-103(13), C.R.S.

Counties that develop in-house trending or depreciation tables must submit them annually for approval to the Statutory Advisory Committee to the Property Tax Administrator prior to use.

As the property under appraisal ages, the cost approach becomes less indicative of the property value. After fifteen years of age, the recommended valuation procedure is to measure the value of depreciated equipment directly in the marketplace, if possible.

COST FACTOR TABLES

The replacement cost factor tables are provided to assist the assessor in the determination of replacement cost new estimates by multiplying original or historical cost of personal property by the cost price indexes published and made available through the courtesy of the Marshall Swift Publication Company. When the original cost is multiplied by the factor for the year of acquisition, the product will approximate the current cost to replace, or the Replacement Cost New (RCN), of the personal property being appraised with property having similar utility.

The assessor must select the appropriate industry category number that corresponds to the type of equipment being appraised. Thirteen industry category numbers are supplied. In many instances, the individual industry category covers more than one type of commercial or industrial property. Specific types of commercial and industrial property are found in each industry category.

If the property to be factored can be specifically identified, the appropriate specific industry category (such as 3 for office equipment) should be applied. If the property cannot specifically be identified, the industry category for the business type may be used. If property is generally useful in many types of business activities, the predominant use shall determine the industry category.

If particular property types are not included in the table, a comparable property type industry category number may be selected. The “average of all” (industry category number 1) should be selected if the specific property type is not included in any of the industry categories.

After selecting the appropriate industry category number, the assessor uses the specific cost factor that corresponds to the year of acquisition of the equipment. The original cost of the equipment is then multiplied by the cost factor to arrive at the estimated replacement cost new (RCN) as of the assessment date.

Example:

Personal Property	Industry Number	Acquisition Year	Cost	Cost Factor	RCN
Desk	3	2000	\$1,500	1.12	\$1,680

In other words, it would cost \$1,680 on the current assessment date to replace an office desk purchased in 2000 for \$1,500.

INDUSTRY CATEGORY NUMBERS

Types of Personal Property Included in Industry Categories

Industry Category Table	
Industry Category Number	Property Type
1	Average of All
2	Candy and Confectionery, Creamery and Dairy, Flour, Cereal and Feed, Garage, Meat Packing, Paint, Refrigeration and Rubber
3	Office Equipment, (excluding copiers), and Office Furniture
4	Retail and Wholesale Stores, Warehousing
5	Rental Furnishings, Apartments, Hotels and Motels
6	Banks, Savings and Loans, Restaurants and Lounges, and Theaters
7	Contractors' Equipment
8	Laundry & Cleaning Equipment
9	Bakery, Bottling, Canneries, and Fruit Packing
10	Brewing and Distilling, Cement, Clay Products, Glass, Metal, Logging, Metal Working, Mining and Milling
11	Chemical, Electrical Equipment, Manufacturing, Paper, Motion Pictures and Television, Printing, and Woodworking
12	All Petroleum, and Textile
13*	Computer and PC Equipment, Computer-integrated Equipment, Telephone and Telecommunication Equipment, and Copiers

Source: Marshall & Swift, October 2005

*Please refer to **Chapter 7, Special Issues**, under *Classification and Valuation of Personal Computers (PCs) and Other Equipment*, for more information.

2006 REPLACEMENT COST NEW FACTORS

**2006 PERSONAL PROPERTY
COST FACTOR TABLE**

Year Acquired	Industry Category Number					
	1	2	3	4	5	6
1980	1.96	1.93	1.81	1.95	1.92	1.86
1981	1.78	1.74	1.66	1.78	1.75	1.71
1982	1.70	1.66	1.60	1.71	1.69	1.65
1983	1.67	1.63	1.56	1.67	1.66	1.61
1984	1.62	1.59	1.52	1.62	1.61	1.56
1985	1.60	1.56	1.50	1.60	1.58	1.54
1986	1.59	1.55	1.48	1.58	1.57	1.52
1987	1.56	1.53	1.46	1.55	1.54	1.50
1988	1.50	1.47	1.40	1.49	1.48	1.44
1989	1.42	1.40	1.33	1.41	1.40	1.37
1990	1.39	1.36	1.30	1.38	1.36	1.34
1991	1.36	1.33	1.28	1.35	1.34	1.32
1992	1.34	1.32	1.27	1.33	1.31	1.30
1993	1.32	1.29	1.25	1.30	1.28	1.27
1994	1.28	1.26	1.22	1.25	1.24	1.23
1995	1.24	1.22	1.19	1.22	1.20	1.20
1996	1.22	1.20	1.17	1.20	1.18	1.19
1997	1.20	1.18	1.15	1.18	1.16	1.17
1998	1.19	1.17	1.15	1.17	1.15	1.16
1999	1.18	1.17	1.14	1.17	1.15	1.16
2000	1.16	1.15	1.12	1.15	1.13	1.14
2001	1.15	1.14	1.12	1.14	1.12	1.13
2002	1.15	1.13	1.11	1.13	1.11	1.12
2003	1.13	1.12	1.10	1.12	1.09	1.11
2004	1.09	1.08	1.07	1.08	1.07	1.07
2005	1.00	1.00	1.00	1.00	1.00	1.00

Source: Marshall & Swift, October 2005

2006 REPLACEMENT COST NEW FACTORS CONTINUED

**2006 PERSONAL PROPERTY
COST FACTOR TABLE**

Year Acquired	Industry Category Number						
	7	8	9	10	11	12	13
1980	1.98	1.96	1.96	1.96	1.87	1.98	1.00
1981	1.78	1.78	1.78	1.77	1.70	1.77	1.00
1982	1.68	1.70	1.70	1.68	1.65	1.66	1.00
1983	1.65	1.67	1.68	1.65	1.62	1.64	1.00
1984	1.61	1.62	1.64	1.61	1.58	1.61	1.00
1985	1.59	1.60	1.62	1.59	1.56	1.60	1.00
1986	1.58	1.59	1.61	1.58	1.55	1.60	1.00
1987	1.56	1.56	1.58	1.56	1.53	1.59	1.00
1988	1.51	1.50	1.51	1.51	1.45	1.53	1.00
1989	1.44	1.42	1.43	1.44	1.37	1.45	1.00
1990	1.40	1.39	1.39	1.40	1.34	1.42	1.00
1991	1.36	1.36	1.37	1.37	1.33	1.38	1.00
1992	1.34	1.34	1.35	1.36	1.33	1.37	1.00
1993	1.30	1.32	1.33	1.34	1.31	1.36	1.00
1994	1.27	1.28	1.30	1.31	1.28	1.33	1.00
1995	1.24	1.24	1.25	1.27	1.22	1.28	1.00
1996	1.22	1.22	1.23	1.24	1.21	1.26	1.00
1997	1.19	1.20	1.21	1.23	1.20	1.24	1.00
1998	1.18	1.19	1.20	1.21	1.19	1.22	1.00
1999	1.17	1.19	1.20	1.21	1.20	1.21	1.00
2000	1.15	1.17	1.18	1.19	1.18	1.20	1.00
2001	1.14	1.16	1.17	1.18	1.17	1.18	1.00
2002	1.13	1.15	1.16	1.17	1.17	1.17	1.00
2003	1.12	1.13	1.14	1.15	1.15	1.15	1.00
2004	1.09	1.09	1.10	1.10	1.10	1.11	1.00
2005	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: Marshall & Swift, October 2005

2006 COST INDEX - FIXTURES/LEASEHOLD IMPROVEMENTS

June 30, 2004 Level of Value

This cost index is provided to assist the assessor in relating original or historical costs of fixtures or leasehold improvements to the real property level of value. The property may be valued using real property appraisal records for computations and should be assessed to the owner of record.

When using this method of valuation, the property must be classified and abstracted as real property improvements. The factors are useful only in the cost approach when attempting to factor historical costs to the correct level of value. All cost approach value estimates must be reconciled to the sales comparison (market) and income approaches to value as with other real property improvements. The factors found in this table are for estimating replacement costs only and do not include an allowance for depreciation.

**2006 FIXTURES/LEASEHOLD IMPROVEMENTS
COST FACTOR TABLE**

Year Acquired	Factor
1980	1.99
1981	1.87
1982	1.81
1983	1.75
1984	1.67
1985	1.64
1986	1.63
1987	1.62
1988	1.58
1989	1.55
1990	1.51
1991	1.50
1992	1.47
1993	1.40
1994	1.35
1995	1.31
1996	1.30
1997	1.26
1998	1.24
1999	1.21
2000	1.14
2001	1.13
2002	1.11
2003	1.08
2004	1.00
2005	0.94

Source: Marshall & Swift, October 2005

AVERAGE ECONOMIC LIFE ESTIMATES

The average economic life estimates are provided for assistance in applying the percent good depreciation tables for each type of property being valued. The economic life recommendations are based upon the Class Life Asset Depreciation Range published by the Internal Revenue Service, Marshall and Swift Co., and other sources. Further information about the estimates may be found in I.R.S. publication 946, "How To Depreciate Property", available from the I.R.S.

The economic life estimates are based on average national service lives and assume normal use and maintenance of the property. Use of the appropriate economic life estimate accounts for typical physical depreciation and functional/technological obsolescence for the personal property within the valuation process. Use of economic lives that differ from those in the estimates must be documented with specific market information. Counties and taxpayers are encouraged to provide this documentation for review by the Division of Property Taxation for possible update of existing published lives.

For specific types of equipment, economic life estimates were developed based on studies completed by the Division of Property Taxation.

PROPERTY TYPE	Recommended Economic Life (years)
COMMERCIAL	
<i>Wholesale Trade Level</i>	
Wholesale trade machinery equipment, and furnishings	9
<i>Retail Trade Level</i>	
Retail trade machinery equipment, and furnishings	9
<i>Service Trade Level</i>	
Adding machines, calculators	6
All terrain vehicles (ATVs) For addt'l info., see Chapter 7	6
Amusement parks	12
<i>Automated teller machines (ATMs): see Chapter 7</i>	
Computer/electronic components/portion	4*
Structural housing	10
Auto repair shops	10
Bank vault doors	20
Barber and beauty shops	10
<i>Cable television:</i>	
Digital TV set-top boxes	4*
Subscriber converters, other than digital	5
Test equipment	8
Origination equipment	9
Satellite receiving ground stations	9
Distribution & subscriber connection equipment	10
Headend equipment	11
Microwave systems	9
Computers – personal & accessories	3*
Computers – other & stand-alone peripherals	4*
Computer – integrated machinery & equipment	4
Construction equipment, general	6
Copiers and duplicators	6**
Data handling equipment, except computers	6
Electronic equipment, except computers	6
<i>Gaming: see Chapter 7</i>	
Electronic (e.g. slot machines)	5
Larger gaming personal property (e.g. tables)	10
<i>Gas station equipment:</i>	
Electronic fuel pumps	6
General	10
Tanks (e.g. above ground, propane, septic)	10
Tanks (e.g. below ground, double-walled, fuel)	20
Hydroelectric Generators	20
Golf carts	6
Laundry and dry cleaning	10
<i>Commercial Continued on next page</i>	

* Use appropriate computer percent good table 2006.

** Use the copier percent good table 2006.

Source: Division of Property Taxation, Marshall & Swift, & I.R.S.

PROPERTY TYPE	Recommended Economic Life (years)
COMMERCIAL (continued)	
<i>Service trade level (continued)</i>	
<i>Medical equipment:</i> For add'l info. see Chapter 7	3 to 10
Meter and stamp equipment	6
Office furniture	10
Pedicabs	10
Photo processing equipment (Electronic)	6
Port-a-potty	10
Radio and television broadcasting	6
Recreation and amusement	10
Restaurant and bar (all)	10
River Rafts	10
Shopping carts	5
Signs (Billboard)	20
Signs (other) by typical business life	
<i>Snow cats:</i> For add'l info. see Chapter 7	
Heavy use (e.g. snowgrooming operations)	6
Moderate use (e.g. transportation operations)	10
<i>Storage tanks:</i>	
Tanks (e.g. above ground, propane, septic)	10
Tanks (e.g. below ground, double-walled, fuel)	20
Telecommunication machinery and equipment	4
Theater	10
Telecommunication towers	20
Typewriters	6
Vending machines	10
Video machines (arcade)	6
RESIDENTIAL/COMMERCIAL	
Residential rental furnishings	10
Apartment, hotel and motel furnishings	10
NATURAL RESOURCES	
<i>Mining-Metallic and Nonmetallic</i>	
Mining, quarrying, & milling equipment	10
<i>Petroleum and Natural Gas</i>	
Exploration, drilling	6
Production (Excluding pipelines)	14
Marketing, retail	9
Refining	16
<i>Timber</i>	
Logging	6
Sawmills, permanent	10
Sawmills, portable	6

Source: Division of Property Taxation, Marshall & Swift, & I.R.S.

PROPERTY TYPE	Recommended Economic Life (years)
INDUSTRIAL	
<i>Manufacturing Trade Level</i>	
Aerospace	10
Apparel and fabricated textiles	9
Bakeries and Confectionery	12
Brewery	12
Canneries and frozen food	12
Cement manufacture	20
Cereal, flour, grain and mill products	17
Chemicals and related products	10
Clay and gypsum products	15
Concrete manufacture	15
Dairy products manufacturing	12
Electrical equipment manufacturing	10
Electronic equipment manufacturing	6
Fabricated metal products	12
Special tools	3
Food and beverage production	12
Special handling devices	4
Forklifts	10
Glass and glass product	14
Special tools	3
Jewelry	12
Lumber, wood products and furniture	10
Machinery (not otherwise listed in this section)	10
Meat packing	12
Motion picture and television production	12
Paint and varnish	10
Plastics and plastic products	11
Special tools	3
Printing and publishing	11
Professional and scientific instruments	10
Paperboard and pulp	10
Rubber products	14
Special tools	4
<i>Semi-conductor manufacturing:</i>	
General	5
Research and development	3
Test equipment	5
Wafer fabrication	3
Soft drink bottling	12
Steel and related products	15
Stone products	15
Sugar and sugar products	18

Source: Division of Property Taxation, Marshall & Swift, & I.R.S.

PERCENT GOOD TABLE

The personal property percent good table is provided to assist the assessor in estimating the replacement cost new less normal depreciation (RCNLD). The column headings represent the average service life expectancy of the personal property being appraised. Each column contains the percent good factor for a specified age in the life of the property.

Percent good tables measure the value remaining in personal property. Depreciation tables measure the loss in value at a specified age. The factor shown in the columns of the percent good table represents the percentage of RCN remaining at a specified age. The general percent good tables are built upon the following assumptions:

1. Iowa State University property retirement & depreciation studies
2. A specified rate of return
3. Average condition and usage of typical property

The general percent good table is generic in nature. It was designed to be generally useful for the majority of personal property. It is not specific to any particular industry or type of personal property.

The table was designed to account for normal physical depreciation. Use of the table with the appropriate economic life estimate accounts for typical physical depreciation and functional/technological obsolescence for the personal property within the valuation process. Additional functional/technological and/or economic obsolescence may also exist. If documented to exist, additional functional and economic obsolescence must be measured in the marketplace either using the market approach or rent loss methods. In addition, any adjustments to the percent good due to the condition of the subject property must be defensible and documented.

The minimum percent good shown for each of the columns is useful as a guide to residual value. It is not absolute and must be reconciled with market information for similar types of property in order to be valid. If the market shows that the actual value of personal property is lower than the value arrived at by using the minimum percent good, the use of the minimum percent good should be rejected in favor of the lower value. The actual value of the personal property must be determined as long as the property is still in use.

If the cost-calculated value is lower than the market and/or income approach, when the personal property reaches its minimum percent good, the assessor should review the original cost, all assigned factors, the physical condition of the property, and other pertinent contributors to value. If these are correct, the assessor must use the cost approach value as the actual value of the property pursuant to § 39-1-103(13)(a), C.R.S.

As the personal property under appraisal ages, the cost approach becomes less indicative of the property value. After fifteen years of age, the recommended valuation procedure is to measure the value of depreciated equipment directly in the marketplace, if possible.

To use the table, the assessor must determine the economic life and the effective age of the subject property. The percent good may be determined by moving across the columns until the one specified for the economic life is reached and then down this column to the point that reflects the effective age of the property.

Example:

Personal Property	Economic Life	Age	RCN	Percent Good	RCNLD
Desk	10 years	6 years	\$1,680	54%	\$907

The assessor must also consider functional and economic obsolescence, abnormal physical condition, or other factors that might affect the value of the equipment. The assessor should also consider the frequency and extent of maintenance to the property. Extensive maintenance or reconditioning of the property may extend the economic life of the property just as a lack of maintenance may shorten the economic life.

DEPRECIATED VALUE FLOOR

In the year in which the personal property has reached its minimum percent good, the applicable Replacement Cost New (RCN) trending factor in use at that time is "frozen" and the Level of Value (LOV) adjustment factor is "frozen" at 1.0. For the assessment years that follow, the RCNLD value does not change until the personal property is permanently taken out of service. An exception to this rule applies when the property has been reconditioned to extend its remaining economic life.

Even though the personal property has been permanently taken out of service, but has not been scrapped or sold, it still has value. However, additional functional and/or economic obsolescence may exist.

It is possible that the market or income approach may indicate a lower value than the personal property's minimum percent good. In addition, as property ages, the use of original installed cost multiplied by trending factors may not yield reasonable RCN values. Any RCNLD estimate should be crosschecked with sales comparison (market) and income information sources, if possible, and the appropriate value used.

VALUATION OF USED PERSONAL PROPERTY

The valuation of used personal property requires that a decision be made concerning the remaining economic life of the property. If the personal property's elapsed age from its actual year of manufacture, or estimated effective year of manufacture, is equal to or greater than the number of years in which the personal property would have reached its fully depreciated value floor, then the price paid for the personal property is to be treated as RCNLD and "frozen" at that value. RCN trending and percent good factors will not be applied to the frozen value. The LOV adjustment factor is "frozen" at 1.0 and will remain 1.0 until the property is taken out of service, sold, or retired.

An exception to this rule applies when the personal property is reconditioned to extend its remaining economic life. Then the reconditioned property is treated as new personal property and the formerly frozen value is treated as acquisition cost that is subject to depreciation over a complete economic life of the personal property.

Even though personal property has been permanently taken out of service, but has not been scrapped or sold, it still has value. However, additional functional and/or economic obsolescence may exist.

If the elapsed age from the year of manufacture, or estimated effective year of manufacture, is less than the number of years when the personal property would have reached its depreciated value floor, as evidenced in its recommended economic life from the preceding tables, then the property is treated as new personal property and the owner's acquisition cost is subject to depreciation over the complete economic life as would be used for new personal property. However, the resulting value should be compared to the sales comparison (market) value for the personal property, if possible.

2006 GENERAL PERCENT GOOD TABLE

	AVERAGE ECONOMIC LIFE IN YEARS																	
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
EFFECTIVE AGE	1	68	77	83	86	89	91	92	93	94	95	96	96	97	97	98	98	98
	2	39	55	65	72	77	81	84	86	88	89	91	92	93	94	94	95	95
	3	18	34	47	57	64	70	75	78	81	84	86	87	89	90	91	92	93
	4	15	19	32	43	52	60	66	70	74	78	80	83	85	86	88	89	90
	5		15	19	31	40	50	56	62	67	71	75	78	80	82	84	86	87
	6			15	20	30	39	47	54	60	65	69	73	75	78	80	83	84
	7				15	21	31	39	46	53	58	63	67	70	74	76	79	81
	8					15	22	31	38	45	51	56	62	66	69	72	75	78
	9						15	23	31	37	44	50	56	60	64	68	71	74
	10							15	24	31	38	44	49	55	60	63	67	71
	11								15	25	31	38	44	50	55	58	63	67
	12									21	26	31	38	44	49	53	58	63
	13									15	23	27	34	38	44	48	53	59
	14										15	24	28	35	40	44	50	54
	15											19	23	29	35	41	46	50
	16											15	21	24	30	36	41	46
	17												15	23	25	31	37	42
	18													15	25	27	32	37
	19														21	23	28	33
	20														15	19	24	30
	21															18	21	26
	22															15	17	23
	23																15	20
	24																	15
	25																	
	26																	

Source: Division of Property Taxation

Using market studies, the following table has been developed for **Personal Computers (PCs) and Accessories:**

Percent Good Table 2006

Average Economic Life		
<u>Age</u>		<u>3</u>
EFF	1	44
	2	23
A	3	13
G	4	7
E		

Source: Division of Property Taxation

Using market studies, the following table has been developed for **Other Computer Equipment Including Computer Peripherals:**

Percent Good Table 2006

Average Economic Life		
<u>Age</u>		<u>4</u>
EFF	1	50
	2	36
A	3	22
G	4	13
E	5	7

Source: Division of Property Taxation

For personal property classified as Computer-integrated Machinery and Equipment, a four (4) year economic life is assigned. The four (4) year life depreciation table found in the General Percent Good Table in this section should be used.

If you have questions concerning personal computers (PCs) and accessories, other computer equipment including stand-alone computer peripherals, or computer-integrated machinery and equipment, please refer to **Chapter 7, Special Issues**, under *Classification and Valuation of Personal Computers (PCs) and Other Equipment*.

Using market studies, the following table has been developed for **Copiers**:

Percent Good Table 2006

Average Economic Life		
Age		6
EFF	1	54
	2	46
A	3	36
G	4	32
E	5	29
	6	26
	7	20

Source: Division of Property Taxation

Copiers have a six (6) year economic life and should be “frozen” in the seventh year at the 20 percent good. In the seventh year the LOV adjustment factor is “frozen” at 1.0 and will remain 1.0 until the personal property is taken out of service, sold, or retired.

LEVEL OF VALUE ADJUSTMENT FACTORS

The following table contains the indexes for adjusting current actual value of personal property to the level of value (LOV) in effect for real property as specified by § 39-1-104(12.3)(a)(I), C.R.S. The procedure involves the multiplication of the assessment date actual value estimate by the appropriate LOV factor for the type of property being valued. When personal property reaches its fully depreciated value floor the actual value should be determined and frozen. The LOV adjustment factor is “frozen” at 1.0 and will remain 1.0 until the property is taken out of service, sold, or retired.

Example:

Personal Property	Industry Number	Age	RCNLD	LOV Factor	Actual Value
Desk	3	6 years	\$907	0.94	\$853

2006 PERSONAL PROPERTY LOV FACTOR TABLE
June 30, 2004 Level of Value

Industry Number	LOV Factor
1	0.92
2	0.93
3	0.94
4	0.93
5	0.94
6	0.93
7	0.93
8	0.92
9	0.92
10	0.91
11	0.91
12	0.91
13	1.00

Source: Division of Property Taxation and Marshall & Swift

CHAPTER 5

APPRAISAL PERFORMANCE ANALYSIS

Chapter 5 is intended to guide county assessors in personal property appraisal performance analysis by providing the procedures for conducting this analysis. Throughout this section, when reference is made to the assessor, the personal property appraiser should be considered as well.

PURPOSE OF ANALYSIS

There are two reasons why appraisal performance analysis is important in the valuation of personal property:

1. Valuation equity, including confirming the accuracy of valuation data
2. Equal taxpayer treatment, from both an appraisal and an administrative standpoint

VALUATION EQUITY

The county assessor is responsible for ensuring that valuations of property are just and equalized. This means that all taxpayers are being fairly treated and similar property is being equitably valued.

Analyzing appraisal performance for personal property ensures that values are just and equalized as affirmed in Nuttall v. Leffingwell, 193 Colo. 137, 563 P.2d 356 (1977). In order for the analysis to be effective, the assessor should confirm that the following steps are completed:

1. All personal property in the county is inspected on a regular basis to account for all taxable personal property.
2. The valuations of like personal property are reviewed to ensure that similar property is comparably valued so that taxpayers pay only their fair share of the property tax burden.

EQUAL TAXPAYER TREATMENT

Assessors must never show favoritism or bias toward taxpayers. The laws and procedures governing property assessment must be correctly applied to all properties.

Performance analysis allows assessors to check their work and helps them eliminate any unintentional bias that may occur in the valuation of personal property.

A good appraisal performance analysis program also will encourage the personal property taxpayers to be confident that they are being fairly treated.

BENEFITS OF ANALYSIS

There are two significant benefits for assessors and taxpayers, which come from good performance analysis:

1. Verification of data
2. Promotion of accuracy

VERIFICATION OF DATA

During personal property valuation reviews, the assessor and the taxpayer have an opportunity to verify all information used in the appraisal. This helps ensure that taxpayers have correctly filed their personal property declaration schedule(s) with the assessor and that the assessor is valuing only the property owned by the taxpayer.

PROMOTION OF ACCURACY

Taxpayers are more likely to accurately file declaration schedules when they understand that the assessor is regularly reviewing personal property records.

Assessors are more likely to keep clear, accurate, and organized valuation records when they know taxpayers have the opportunity to regularly review such records.

TYPES OF ANALYSES

The three types of personal property appraisal performance analyses commonly used by county assessors in Colorado are:

1. Office review
2. Physical inspection
3. Examination of accounting books and records

OFFICE REVIEW

DEFINITION

An office review is completed using the personal property records as they exist within the assessor's office.

Office reviews are usually completed between January 1st and June 15th of each year because this is the period of time when new declaration schedules are being submitted by taxpayers.

OVERVIEW

An office review consists of checking the current personal property declaration schedule against existing assessor records which are collectively referred to as an "account." One important part of the office review is the comparison of valuations of similar property to ensure there is equalization between similar types of property. This also is the time when the assessor makes additions to or deletions from the property list supplied by the taxpayer.

The assessor reviews the account and may contact the taxpayer to clarify information found on the current or past declaration schedules. In addition, if significant questions arise, the assessor can flag the account for physical inspection of the property.

REVIEW OBJECTIVES

The main objectives of the office review are to check and update the property appraisal records and select accounts that may need additional review through physical inspection and analysis of books and records.

PROCEDURES FOR OFFICE REVIEW

All personal property schedules are reviewed in the office on a yearly basis as part of the valuation process. The review is in preparation for the yearly appraisal of personal property actual values which are listed on the Notices Of Valuation (NOV's).

To conduct an effective review in the assessor's office, the following steps are completed during the review of each personal property account:

1. All existing personal property records on file in the assessor's office are reviewed. The most current declaration schedule data are compared to the additions and deletions from the prior two years' data to determine if there has been consistency in the pattern of reporting personal property additions and deletions.
2. The current assessment status of all equipment listed as leased or loaned equipment is checked. All taxable property is verified as to having been assessed to the proper owner.
3. Any additional information necessary to explain discrepancies is requested from the taxpayer.
4. All description and value data are reconciled and a final estimate of value is completed.
5. Like properties are compared, with typical standards or with similar properties, to verify that all property has been correctly valued.

The office review is typically conducted while processing the declaration schedule for the current year and is performed in conjunction with the current appraisal of personal property. The office review usually occurs before June 15 and is helpful in determining which accounts may need special attention during the physical inspections conducted later in the year.

PHYSICAL INSPECTION

DEFINITION

The physical inspection involves a representative of the assessor's office visiting and inspecting property at the taxpayer's place of business.

OVERVIEW

The physical inspection may be conducted at any time of the year, but usually begins after the NOV's have been mailed. There are, however, instances in which the assessor may find it necessary to visit the taxpayer's place of business prior to the setting of final values. The usual cause of this early inspection is a need to verify information considered to be doubtful or incomplete, especially in the case of Best Information Available assessments from the prior year, or to establish an accurate list of property under a new ownership as in the case of a business sale or a new business.

The physical inspection is the only way for the assessor to accurately estimate the condition of each piece of personal property.

OBJECTIVES

There are several objectives of the physical inspection which can be described as obtaining answers to the following questions:

1. Does the listed taxable personal property exist?
2. Who owns the property?
3. Has the correct original cost been reported to the assessor?
4. Have asset dispositions, such as sales or scrapping, been reported to the assessor?
5. Has all leased equipment been reported?
6. Has all leased equipment ownership been reported?
7. Will any leased equipment become the property of the lessee during this year? This property can be flagged to be assessed to the lessee the following year.
8. Are there assets on the premises that have not been declared by this taxpayer or by any other taxpayer? Are there assets reported by the taxpayer, but not located on the premises?
9. What economic life should be assigned to property not specifically listed in **Chapter 5, Appraisal Performance Analysis**?
10. What is the overall physical condition of the property? Should additional functional or economic obsolescence be considered?
11. Is movable equipment apt to be located in more than one county during the year and, if so, where and for what periods of time?

12. Is Special Mobile Machinery (SMM) listed? If SMM does not leave the real property owned or leased by the equipment owner, it may not be subject to specific ownership tax, and if not, it is subject to ad valorem tax. SMM which is subject to specific ownership tax, but for which no current SMM plates, Z-tabs, or lease decals are visible should be added to the taxpayers list of personal property.
13. To enhance the discovery, listing, and classification process, have all leasehold improvements been declared, listed and assessed, but not double assessed by the real property appraiser, to the lessee of the real property?
14. Is there any personal property that was acquired during the previous calendar year, but not placed into service as of the current assessment date?
15. Does the taxpayer have more than \$2,500 in total actual value of personal property in this county?

PHYSICAL INSPECTION PLANNING

The performance analysis program can be more effective if the personal property schedules designated for performance analysis are grouped geographically. This allows for a concentration of effort in one area of the county and reduces travel expenses.

In addition, this approach provides for taxpayer understanding of the performance analysis program because several taxpayers in an area will be analyzed at the same time.

Many assessors target all the accounts for specific types of businesses for performance analysis in a given year. For example, the assessor may select all attorneys, physicians, accountants, and appraisers during the current year. Analyzing similar business during the same year aides the assessor in identifying inconsistencies within like businesses.

The following types of accounts should be analyzed each year:

- Best Information Available (BIA) valuations
- Incomplete declarations and taxpayers who have failed to file
- Returns that are inconsistent with historical information
- Specific suspected discrepancies

The appraiser assigned to the geographical area prepares a preliminary schedule so the course of the performance analysis program may be planned and the most convenient time for the taxpayer appointments may be determined.

PERSONAL PROPERTY AUDIT PLAN

Each county should establish a personal property audit plan. Included in this plan is a twelve month audit time frame which will allow assessors to plan an annual performance analysis program and monitor efforts by personal property staff. The goal of this program is to complete office reviews, physical inspections, and examination of accounting books and records according to the developed plan. The county should keep track of all accounts completed according to the plan for review by the state assessment auditor. A Personal Property Audit Plan Template is included as **Addendum 5-A, Audit Standards.**

Accounts To Be Analyzed

All personal property accounts are to be included in the personal property audit plan developed by the county assessor. Refer to **Addendum 5-A, Audit Standards**.

Initial Telephone Call

It is very important that the assessor spend adequate time on preliminary performance analysis research and the initial taxpayer telephone contact before conducting the performance analysis. An appointment can be made with the taxpayer, if this is possible.

A time of day for the appointment does not necessarily need to be specified, unless the taxpayers so request, but the taxpayers at least should be informed that an appraiser will be in their area analyzing accounts on a particular day or days. This prepares taxpayers for the performance analysis and allows them time to review and to gather all necessary records before the assessor arrives.

The following recommendations are made to assist assessors in the initial contact with the taxpayers:

1. The public should be notified of the purpose and procedure of the performance analysis through public notices, news releases, and other public relations efforts. The performance analysis program should be explained as to how it will be conducted and the purpose of physical inspections.
2. The taxpayer should be contacted in advance of the performance analysis to enable convenient appointment scheduling.
3. The taxpayer should be put at ease by assurances that the performance analysis is routine and that it will benefit all taxpayers.
4. The appointment should be kept. Since a county employee is both a professional and a representative of county government, it is necessary to be punctual in keeping scheduled appointments. The appointment should be re-scheduled as soon as it becomes apparent that it cannot be kept.

Appointment Verification Letter

If possible, an appointment verification letter is mailed to each taxpayer whose property is scheduled for performance analysis. This begins the written record of the performance analysis. A copy of the original public notice or news release can be enclosed with the letter. A copy of the letter should be filed with the valuation records of the taxpayer.

Taxpayers should be contacted either by phone or by letter. An example taxpayer contact letter is included in **Addendum 5-B, Sample Letters**.

CONDUCTING THE PERFORMANCE ANALYSIS INTERVIEW

General Demeanor

Taxpayers deserve to be treated with courtesy and respect. The appraiser may be the taxpayer's only personal contact with the assessor's office.

Discourteous or argumentative behavior makes the performance analysis more difficult and reflects negatively on the entire assessor's office staff.

Getting the Taxpayer to Cooperate

The following recommendations are made to help the assessor obtain the taxpayer's cooperation and respect:

- A courteous, cooperative, and professional attitude should be displayed, along with professional attire. All questions asked by the taxpayer should be answered.
- All offers of gratuities should be declined.
- Political, religious, or other potentially argumentative topics should be avoided.
- Premature conclusions should not be drawn.
- During the course of the performance analysis, the assessor will request several types of information from the taxpayer. This information includes data about the business enterprise, as well as the methods used by the taxpayer to account for the acquisition or disposition of assets.
- All pertinent questions should be asked of the taxpayer during the interview. However, the taxpayer should be informed that additional questions may need to be answered once the collected data has been reviewed.

CONDUCT PHYSICAL INSPECTION

In cases where no itemized listing has been furnished by the taxpayer, the assessor creates one during the physical inspection. If the taxpayer has submitted an itemized list, the assessor verifies the listed property while analyzing the business location.

While conducting the physical inspection, the assessor should note major items of personal property not listed by the taxpayer on the declaration schedule, as well as, noting whether small dollar value items have been included.

An inspection of equipment not only allows the assessor to see how equipment is used, but also allows the assessor to observe and rate physical condition.

The assessor verifies that all items appearing on the personal property account are still being used in the business. Any items no longer present in the business are flagged for removal from the taxpayer's account.

The assessor should pay particular attention to real property items that have been reported with personal property items, to ensure that they are not double assessed as both real and personal property. This is particularly important for property described as "leasehold improvements." Guidelines for the identification and valuation of fixtures is found in **Chapter 1, Applicable Property Tax Laws**.

The assessor should document all findings and conclusions in such a manner that anyone can review and understand what occurred during the performance analysis.

EXAMINATION OF ACCOUNTING BOOKS AND RECORDS

During the initial contact with the taxpayer, it should be explained which records are to be reviewed and over what periods of time. Unnecessary records should not be requested from the taxpayer. The appropriate individual to see for access to records and the location(s) where records are kept also should be determined. If the records are in the possession of an independent accountant the accountant should be contacted, after obtaining the taxpayer's permission. The actual owner of the property should always be contacted first, if possible.

BUSINESS ENTERPRISE INFORMATION

Information about the business enterprise which is requested or verified during the examination of accounting books and records includes the following:

1. Description of the business
 - a. Products manufactured or sold or services offered
 - b. Number of employees
 - c. Hours of operation
 - d. The information requested here enables the appraiser to make judgments about the general operation of the business. The general operation of the business gives indications as to how well property is maintained and indicates the normal use of the property.
2. The business's capitalization and expense practices for accounting purposes
 - a. Rules concerning expensing equipment purchases which fall below a specified minimum amount above which equipment would be capitalized; expense equipment is still assessable, unless it has a total economic life of one year or less in which case it is, by Division policy, considered to be materials or supplies consumed in the ordinary course of the business and therefore exempt pursuant to 39-1-102(7.2), C.R.S.
 - b. Rules concerning expensing or capitalizing freight to the point of use, installation, and sales/use tax; these costs should be included with the original cost of the equipment
 - c. Rules concerning writing off fully depreciated assets; these assets are still assessable until they are scrapped or sold even if they are not in use or if the business is no longer operating
 - d. Rules concerning writing off scrapped or sold assets; these should be deleted items which are not assessable to their former owner
 - e. Rules concerning capitalizing or expensing major equipment repairs; major equipment repairs may change the effective age of equipment, but should not be included with the original cost of the equipment

- f. Rules concerning recording trade-in allowances which some companies deduct from the original cost of the acquired assets; original costs should include trade-in allowances as part of compensation for the purchased equipment
- g. Rules concerning residual value of leased property at “buy out” time; this is not the original cost of the equipment

The information regarding the methods used by the taxpayer to account for property acquisition and recovery is important to the assessor in reconciling the taxpayer's financial records, the physical inspection, and the personal property account. Companies which expense items whose value is below a specified amount may not be reporting all equipment to the assessor.

Understanding the procedures used by taxpayers regarding asset treatment and disposition allows the assessor to confirm the accuracy of personal property account listings.

3. Reconciliation between the subsidiary ledgers original costs and the original costs reported on the declaration schedule

Comparisons should be made to reconcile original equipment or pooled asset costs and the original costs listed on the declaration schedules. The assessor needs to ask the taxpayer, in the initial telephone contact, to provide this subsidiary ledger information or to give permission to contact the taxpayer's accountant, if necessary.

A thorough understanding of any differences between original book costs and original costs reported on the declaration schedule helps the assessor confirm the accuracy of the property listings and the appraised values of the personal property.

4. Method of recording purchases

The company's policy on recording purchases gives information about the accuracy of the declaration schedule, and helps the assessor reconcile the declaration schedule and the taxpayer's accounting records.

5. Methods of accounting for assets at the subject location that are recorded on the books of a subsidiary or parent corporation

The taxpayer is required to file a listing of all personal property at the subject location. Any property or asset listings carried on the accounting records of a parent or subsidiary company are usually not available to the assessor for reconciliation with the physical inspection or the personal property account.

6. Method of accounting for property leased or rented from others

The way in which taxpayers account for leased or rented equipment is important to the assessor for the discovery of leased property and to reconcile the physical inspection listing with the taxpayer's accounting records.

Careful attention to the ownership of leased property helps avoid double assessments of this property.

7. Access to the company's chart of general ledger accounts may be helpful in determining the company's accounting practices. Any questions which arise as to the appropriateness of an accounting practice, which affects personal property values, should be resolved in consultation with a professional accountant and according to Generally Accepted Accounting Principles (GAAP).

FINANCIAL RECORDS

The financial records and sources that may be of interest to the assessor include the following.

Periodic Financial Statements

Financial statements are documents which indicate the company's profit or loss and net worth. These are sometimes called balance sheets.

General Ledger

The general ledger is the immediate source from which financial statements are prepared. The general ledger provides the overall balances of all asset, liability, and capital accounts of the company.

Subsidiary Ledgers

Subsidiary ledgers are ledgers that provide detailed, individual balances in support of the general ledger totals such as depreciation schedules for individual pieces of equipment or pooled asset accounts for depreciating similar equipment purchased at one time.

Books of Original Entry

Books of original entry include sales, purchases, cash disbursements, and general journals from which ledger entries are made.

Primary Source Documents

Primary source documents include documents which serve as the basis for entry in the books of original entry. Examples include sales invoices and supplier's invoices.

Substantiating Documentary Evidence

Substantiating documentary evidence includes documents which support primary evidence. They frequently relate back to the origins of the transaction. Examples include the following:

- Sales orders
- Sales contracts
- Shipping records
- Purchase orders
- Bills of lading
- Receiving records

External Evidence

External evidence includes documents filed with outside governmental or commercial agencies which require detailed information about the company. Examples include the following:

- Federal or state income tax returns
- Fire insurance policies
- Statements for credit reports
- Reports to the Securities and Exchange Commission (10 K Report)

Other Company Records

Other company records include documents which outline company policy and practice such as the following:

- Annual reports
- Accounting procedures manuals
- Systems of internal control

COMPARING APPRAISAL AND ACCOUNTING RECORDS

In comparing appraisal records to accounting records, the assessor verifies that the taxpayer is using original acquisition cost, plus installation, sales/use tax, and freight to the point of use, on the declaration schedule and not net book value, i.e. the cost minus depreciation to date. Net book value is commonly used when a business is sold and may be acquisition cost to the new owner. Refer to ***Bulk Sale of Personal Property Assets*** under the ***Types of Cost*** topic in **Chapter 3, Valuation Procedures**. The amount and listing of fully depreciated assets still owned is obtained or verified.

ASSET CLASSIFICATION LIST REVIEWED

The asset classification list can be reviewed to verify that property has been reported according to the statutory definitions for the following types of property.

- Real property
- Personal property
- Exempt property
- Lessor owned equipment
- Movable equipment
- Taxable property
- Works of art

ACQUISITION/DISPOSITION RECORDS ANALYZED

The assessor compares the current asset and leased equipment lists with the appraisal records and declaration schedules and notes any discrepancies which may result in either omitted property or double assessments. Analysis of acquisition and disposition records should reconcile with equipment listed in the declaration schedules as added or deleted. The assessor attempts to verify all information on the personal property records with taxpayer accounting records. Discrepancies should be brought to the taxpayer's attention for correction, clarification, or explanation.

PERFORMANCE ANALYSES TESTS PERFORMED

Certain performance analysis tests should be performed to verify the accuracy and completeness of information contained on the declaration schedule.

The goal of these tests is to examine the assessor's information and make certain the taxpayer and assessor are in agreement concerning the property which is listed and valued. The performance analysis tests include the following.

High and Low Value Item Test

The assessor selects a few major (high cost) items and minor (low cost) items in the taxpayer's accounting records and double-checks to assure that they are listed in the personal property account. The goal of this test is to verify whether or not all property has been listed in the assessor's records.

Asset Category Test

The assessor scans the subsidiary asset ledgers to determine if the taxpayer has used the proper asset categories, e.g. a desk is classified as furniture rather than machinery. This test will help to identify problems associated with use of improper cost factor tables.

Assessment Status Test for Property Owned by Others

The status of property leased or loaned to the business being analyzed should be checked. When a significant amount of leased equipment is listed, the accounts of the lessor need to be checked to assure that they are reporting the equipment as owned on their declaration schedule. If taxpayer records show a large decrease has occurred in the amount of leased equipment, there may be a corresponding increase in the equipment being purchased by the business.

Additional Information

Additional information, necessary to complete the performance analysis documentation or to address any areas of concern, should be requested from the taxpayer.

DOCUMENT FINDINGS AND CONCLUSIONS

A short written summary is a key feature of a performance analysis, other than an office review. This narrative documents significant findings and conclusions including areas of discrepancy, their causes, and corrective actions taken. The taxpayer's methodology in preparing personal property declaration schedules should be documented if there is a variance from prescribed standards.

The narrative logically follows the sequence of the working papers. It covers significant points in enough detail so that anyone reviewing the performance analysis at a later date can follow the procedures used and the conclusions reached.

The performance analysis narrative is a short summary of the findings, conclusions, and recommendations from the performance analysis. Any opinions or recommendations must be documented. The narrative should be included in the information sent to the taxpayer at the conclusion of the performance analysis.

Any correspondence should be signed by the assessor, dated for future reference, and filed in the taxpayer's personal property account file.

RECONCILE APPROACHES AND ESTIMATE VALUE

The assessor reviews all information received from the taxpayer and appraises the current actual value of the personal property. In addition, the assessor documents all approaches to value considered in the appraisal of the property and identifies the approach used in the final estimate of value.

NOTIFY OWNER OF PERFORMANCE ANALYSIS RESULTS

When a physical inspection or examination of accounting books and records is complete, the assessor should notify the taxpayer, in writing, of the results of the performance analysis.

Letter Explaining Performance Analysis Results

The performance analysis, other than an office review, is not complete until the taxpayer has received written notice of the results. The taxpayer should be thanked for the cooperation shown and be made aware of any action that may be taken as a result of the findings. An example results notification letter is included in **Addendum 5-B, Sample Letters**.

Special Notice of Valuation (SNOV) For Omitted Property

If the performance analysis results in the discovery of omitted property, the taxpayer is notified of the omitted property value. This is accomplished by using the Special Notice of Valuation (SNOV). Refer to **ARL Volume 2, ADMINISTRATIVE AND ASSESSMENT PROCEDURES MANUAL, Chapter 9, Form Standards**, for the SNOV form. The taxpayer is notified in order to preserve the taxpayer's administrative remedies even if the performance analysis has been conducted subsequent to the initial notice of valuation deadline of June 15th.

The penalty for omitted property may be applied under certain circumstances. A complete discussion of this issue is found in **Chapter 3, Valuation Procedures**.

If the performance analysis reveals property that may have been scrapped or sold prior to January 1 or property that has been assessed twice, the assessor should inform the taxpayer that an abatement petition can be submitted for taxes paid on assessments for the two prior years. These are clerical errors and should be corrected whether the taxpayer protested the value of the property during the assessment year(s) in question or not. The taxpayer needs to provide documentation demonstrating that the property was scrapped, sold, or double assessed. The incorrect value also should be corrected for current and subsequent years. Abatement petitions should be approved when the taxpayer has timely filed a declaration schedule for the year subject to abatement and the information on this declaration schedule is incorrect.

It is important to note that the performance analysis program is not designed to detect and correct prior errors. It is designed to verify the accuracy of current personal property listings for the taxpayer and to verify the accuracy of personal property valuations made by the assessor from those listings. The assessor should never make statements about valuation errors or changes until potential problems have been thoroughly investigated.

SUMMARY

A complete personal property appraisal performance analysis program enhances the efficiency of the assessor's office as well as the accuracy of the personal property assessments that are made. A complete performance analysis program involves office review, physical inspection, and examination of accounting books and records.

The assessor should develop a personal property audit plan such as the one described in **Addendum 5-A, Audit Standards**.

Finally, the assessor must notify the taxpayers of the outcomes of the performance analyses, other than office reviews, and allow for taxpayer review and protest of omitted property valuations or filing of abatement petitions, to correct errors.

ADDENDUM 5-A, AUDIT STANDARDS

The purpose of this standard is to provide Colorado assessors with recommended topics and criteria for inclusion in the Colorado State Board of Equalization's mandated personal property audit plan. This plan must be completed and be in place by January 1, 1995, and should be updated each year as needed.

Questions regarding the contents of this standard and suggestions for revision are welcome and should be addressed to the Division of Property Taxation.

TOPICS FOR INCLUSION IN THE PLAN

The following topics should be included in the county audit plan:

1. Purpose of the Plan
2. Personal Property Account Characteristics
3. Plan Time Frame and Interim Progress Review Points
4. Listing of Office Resources Involved in the Audit Program
5. Account Review Selection Criteria and Specific Audit "Triggers"
6. Audit Work Paper and Documentation Guidelines
7. Assessor Signature Page

Recommendations for specific items to be included under each of these topics is listed below.

PURPOSE OF THE PLAN

This section includes the reasons for the development of the plan:

1. To plan for a comprehensive review and audit program involving personal property accounts to ensure accuracy, equalization, and uniformity of taxpayer reporting, and
2. To comply with the Colorado State Board of Equalization requirement to audit, through physical inspection, personal property accounts selected in accordance to criteria contained within a written plan in place on January 1, 1995.

Additional reasons for inclusion under this section may be incorporated at the option of the county.

PERSONAL PROPERTY ACCOUNTS CHARACTERISTICS

The purpose of this topic is to give the reader a general idea of the types, numbers of accounts, and aggregate assessed values of personal property accounts found within the county. Specific totals of personal property accounts should be listed by abstract code along with total assessed values applicable to each code.

The following abstract codes of personal property accounts are included within the scope of this plan:

- 1410 - Residential Personal Property
- 2405 - Gambling Personal Property
- 2410 - Commercial Personal Property
- 3410 - Industrial Personal Property
- 54xx - Natural Resource Personal Property (all types)
- 64xx - Producing Mines Personal Property (all types)
- 74xx - Oil and Gas Personal Property (all types)

Also suggested for inclusion would be a list of the "top ten" personal property taxpayers, by assessed value, in the county.

AUDIT PLAN TIME FRAME

Information required under this topic is:

1. The assessment year covered by the audit plan
2. The specific twelve month period in the audit plan cycle

Personal property audits accomplished within this time period will be analyzed by the state property tax auditor for compliance with the completed plan.

Suggested for inclusion in this plan should be at least two interim progress review points to ascertain that the plan is being timely completed and that adequate documentation is being developed.

LISTING OF OFFICE RESOURCES

Recommended information in this section would be the number of personal property appraisers, appraisal technicians, administrative personnel, and any other assessor office personnel involved in the completion of the audit program. Conversion of personnel resources to a "person-months" unit of comparison is suggested in order to compare resource allocation for this audit program to allocations for subsequent audit programs.

TYPES OF AUDIT ANALYSES AND ACCOUNT SELECTION CRITERIA

This section includes a brief definition of the types of audits that will be conducted during the audit program, i.e. office review, field review (physical inspection), examination of books and records. In addition, general procedures for conducting each of these analyses may be included as well.

Also this section contains specific criteria for selection of accounts for the audit program and the estimated number of accounts that will be physically inspected in the current audit program. Criteria used to exclude any accounts from the audit program must be listed along with the numbers of accounts and assessed valuations assigned to those accounts.

Specific Program Triggers for Priority Selection

Included in the criteria should be specific "triggers" that would prescribe a high priority for review, such as:

- Non-filing taxpayers that resulted in Best Information Available (BIA) assessments placed on their property
- Accounts with omitted property discovered through the county's business discovery program
- Incomplete declarations or declarations having inconsistent information from year to year
- Accounts that were protested from the prior year where the taxpayer had substantial disagreements with the values assigned to the reported property
- Accounts showing greater than 10% change in the taxpayer's General Ledger account balances but with no additions or deletions
- New businesses filing for the first time
- Accounts having no additions or deletions for three continuous years
- Accounts where discrepancies were consistently found in prior audits

Account Selection Criteria

Suggested selection criteria for the balance of accounts scheduled for review are listed below:

- Analysis of accounts associated with same business type or use
- Accounts located in the highest and lowest quartile of actual value per square foot by business type
- Random sample of accounts not audited within the last five years

Selection of accounts by business types is an especially good method because it allows for review of values for equalization purposes as well as creating a basis for BIA assessments to be applied to non-filing comparable businesses.

Although auditing a minimum percentage of accounts is not required as part of the plan, account criteria should be established to allow for a cyclical review and inspection of all accounts, over a reasonable time frame. Use of a cyclical time frame is consistent with the purpose of the audit program to provide accurate and equalized values and uniform taxpayer reporting of personal property accounts in the county.

AUDIT WORK PAPER AND DOCUMENTATION GUIDELINES

This section should contain procedures for documenting how the audited accounts were selected, the number of accounts selected, and any problems encountered in completing the program.

Also recommended for inclusion are procedures for audit "paper trails", audit work paper documentation, and any other documentation essential for a functioning audit program.

ASSESSOR SIGNATURE SECTION

The assessor signs and dates the plan to certify that it is the official personal property audit plan for the current assessment year. The plan must be in place by January 1, 1995.

ADDENDUM 5-B, SAMPLE LETTERS

ADVISING TAXPAYER OF A PHYSICAL INSPECTION

C O U N T Y L E T T E R H E A D

D A T E

Account # _____

Tyrone T. Taxpayer
123 State Street
Podunk, Colorado 80000

Dear Mr. Taxpayer:

This is to inform you that the Carbon County assessor office has selected your business for a routine review of taxable assets used by you in your business which is located in Carbon County. This review is being conducted under the Personal Property Audit Plan developed by my office that was mandated by the Colorado State Board of Equalization for 1995 and future assessment years.

Mr.(Ms.) _____ of my staff has been assigned to contact you shortly and set up an appointment for a physical inspection of the personal property located at your business. At this time, you will be provided a copy of the current itemized listing of property and will have the chance to discuss additions, deletions, or changes to the listing with my staff appraiser. Any other specific questions or concerns you have can be asked at this time as well.

Your assistance in this review is appreciated. It is my desire that fair, reasonable, and equitable values be assigned to all personal property in my county. Periodic physical inspection and review of all businesses greatly helps us to accomplish this task.

If you have any questions regarding this review, please contact me or my personal property staff at (970) 555-1212. Thank you very much for your cooperation.

Sincerely,

I. M. Fair,
Carbon County Assessor

ADVISING TAXPAYER OF THE RESULTS

C O U N T Y L E T T E R H E A D

D A T E

Account # _____

Tyrone T. Taxpayer
123 State Street
Podunk, Colorado 80000

Dear Mr. Taxpayer:

We have completed our review and physical inspection of the personal property assets used by you in your business located in Carbon County. Our review indicated the following results:

Included here could/should be:

- Scope of the audit, i.e. what the appraiser actually did.
- List of property discovered to be omitted
- List of property discovered to be no longer at the site
- Request for additional taxpayer documentation, i.e. depreciation schedule, general ledger information, acquisition cost documentation, etc.
- If adequate information regarding taxpayer's property has been provided,
- Action of the assessor regarding discoveries made during the inspection; Special NOV for omitted property, reduction in value for deleted property, rights to abatement for previous 2 years, etc.

I want to thank you again for your cooperation in our review process. If you have any questions or wish to discuss our results, contact me anytime.

Sincerely,

I. M. Fair,
Carbon County Assessor

CHAPTER 6

OIL AND GAS EQUIPMENT VALUATION

INTRODUCTION AND LEGAL BASIS

Using **Chapter 6, Oil and Gas Equipment Valuation**, as a guide, Colorado county assessors will be able to uniformly value oil and gas equipment across the state. All surface equipment and submersible pumps and sucker rods are taxable as personal property pursuant to § 39-7-103, C.R.S. For reference, the statute is repeated here in its entirety.

Surface and subsurface equipment valued separately.

All surface oil and gas well equipment and submersible pumps and sucker rods located on oil and gas leaseholds or lands shall be separately valued for assessment as personal property, and such valuation may be at an amount determined by the assessors of the several counties of the state, approved by the administrator, and uniformly applied to all such equipment wherever situated in the state. All other subsurface oil and gas well equipment, including casing and tubing, shall be valued as part of the leasehold or land under section 39-7-102.

§ 39-7-103, C.R.S.

In response to assessor and industry concerns, the Division of Property Taxation developed an equipment valuation methodology using Basic Equipment Lists (BELs) and Valuation Grids. BELs were developed for the different types of oil and gas wells found in the State. The BELs identify the equipment common to each particular type of well by basin, depth, production level, and method of production. An ***Additional Installed Equipment List*** section with corresponding values is provided in this chapter for the purpose of adding specific equipment to the BELs as necessary, depending on the information provided by the operator and from field inspections. A ***Stored Equipment List*** section is also provided in this chapter to value equipment that is located at the wellsite, yard, or warehouse, is not in use, and is not declared as inventory of merchandise by the equipment owner.

Accompanying each BEL are three Valuation Grids. The grids place a value on the BEL based on the condition of its equipment and the depth and production of its well. The three grids distinguish between very good condition equipment, average condition equipment, and minimum condition equipment. The procedure for valuing the equipment is discussed beginning with the ***Approaches to Value*** section in this chapter. At the end of the chapter, valuation problems that include example worksheets, illustrate the procedure.

BELs are developed only for production and wellsite processing equipment, which is defined as the equipment necessary to produce, separate, and store fluids from the reservoir to the custody transfer point.

The custody transfer point for oil is considered to be the inlet of the Lease Automatic Custody Transfer (LACT) Unit or the outlet of the oil storage tank, whichever is appropriate for each lease. The custody transfer point for gas is considered to be the inlet to the gas meter run. If the producer maintains custody of the production beyond the lease line, then the custody transfer point will be considered to be the lease line.

All property beyond the custody transfer point is subject to local assessment by the assessor or unit assessment by the Division of Property Taxation as state assessed property. Equipment located in off-site facilities such as water/gas injection plants, field-wide gathering systems, gas processing plants, and amine production plants is not included or valued in this chapter. Also, CO₂ wells are not included or valued in this chapter. This equipment is subject to local assessment by the assessor or central assessment by the Division's State Assessed Section. Only equipment located on the wellsite, or associated with the wellsite, but stored and not held for resale, is valued using this chapter.

A **GLOSSARY** consisting of oil field terms and photographs of selected equipment has been provided at the end of this chapter.

APPROACHES TO VALUE

In Colorado, assessors determine the "actual value" of taxable personal property. Colorado statutes define actual value as that value determined by appropriate consideration of the following approaches to value:

1. Cost Approach
2. Sales Comparison (Market) Approach
3. Income Approach

The BELs and the Valuation Grids should be used to determine the actual value of the production equipment.

Oil and gas equipment valuation is subject to two general personal property exemptions:

1. Exemption of "consumable" personal property items
2. Exemption of \$2,500 or less in total actual value of taxable equipment (personal property) on a "per county" basis

According to § 39-3-119, C.R.S., the Division has established criteria to determine whether or not an item qualifies as "consumable." Please refer to **Chapter 2, Discovery, Listing, and Classification**, in this manual for specific information regarding consumable personal property.

In accordance with § 39-3-119.5, C.R.S., personal property is exempt from ad valorem taxation if the total actual value (market value) of all taxable well equipment (personal property) owned by the taxpayer per county is \$2,500 or less. The real property valuation of the leasehold interest, based on well production, must not be combined with the personal property value to determine if the \$2,500 threshold has been exceeded. The threshold is determined using only personal property valuation.

COST APPROACH

The Cost Approach is described in **Chapter 3, Valuation Procedures**. To reiterate, the cost approach is based upon the principle that the value of a property equals the cost of acquiring an equally desirable substitute property. It is essentially an estimate of the cost of replacing the subject property with a new property that is equivalent in function and utility and then adjusting the Replacement Cost New (RCN) value for appropriate depreciation. The current BELs reflect the most appropriate equipment necessary to produce a given amount of fluid from a given depth.

SALES COMPARISON (MARKET) APPROACH

The sales comparison (market) approach to value is based upon the assumption that property value may be measured by analyzing what buyers pay for similar property. The method used in the chapter to determine the market value is the sales comparison method. Market value is defined in **Chapter 3, Valuation Procedures**, as, “The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.”

The market value for oil and gas equipment is based on many considerations, including, but not limited to:

- Availability of equipment
- Current function of equipment
- Condition of equipment
- Current capacity of equipment
- Age of equipment

The method values the equipment separately from the value of the leasehold. When oil and gas properties having on-site equipment sell, any portion of the sales price that is attributable to on-site equipment may be different than the values listed herein, depending on the value placed on the oil and gas reserves. All values contained within this chapter reflect market value of equipment inclusive of acquisition cost, installation cost, sales/use tax and freight to the point of use.

INCOME APPROACH

The income approach to value has limited applicability to oil and gas equipment owned by the operator. However, the income approach can be used to value leased or rented equipment. The annualized net income stream can be capitalized to determine a value by the income approach. Refer to **Chapter 3, Valuation Procedures**, for additional information on the use of the income approach.

MARKET APPROACH VALUATION PROCEDURES

The following ten steps are essential to accurately value installed oil and gas equipment in the State of Colorado, using the Market Approach to Value. A detailed discussion of each step follows the list:

- STEP #1 Develop an itemized inventory of the property. This will require a physical inspection and an adequate description of the equipment, condition and ownership.
 - STEP #2 Establish the total production for the lease, including oil, gas, and water production.
 - STEP #3 Determine the depth of the well.
 - STEP #4 Establish which method (flowing or pumping) is used to lift the production from the reservoir.
 - STEP #5 Locate the well in its appropriate geological basin.
 - STEP #6 Select the appropriate BEL based on the factors above.
 - STEP #7 Determine the condition of the equipment.
 - STEP #8 Determine stripper well status. With the above information in hand, a value can now be placed on the equipment for each well. Using the appropriate Valuation Grid, find the value of the BEL based on the depth and total production level. Add the value of any Additional Installed Equipment. Add the value of any stored equipment. The result is the current actual value of the equipment for the well.
 - STEP #9 Apply level of value (LOV) adjustment factor. To adjust to the specified year's level of value, multiply the current actual value by the specified year's adjustment factor. The LOV adjustment factor is sometimes referred to as the "rollback factor."
- The 2006 adjustment (rollback) factor is: 0.91**
- STEP #10 Multiply the adjusted actual value by the 29 percent assessment rate for all personal property.

DETAILED DISCUSSION OF VALUATION STEPS

STEP #1 – ITEMIZED INVENTORY OF PROPERTY

Itemized Listing Required From Operators

To use **Chapter 6, Oil and Gas Equipment Valuation**, the assessor must have an itemized listing of all oil and gas equipment located on each well in the county. Operators of producing oil and gas wells are required to file a complete listing of all machinery and equipment owned as of the assessment date, by well name. It is Division policy, based upon agreement with oil and gas industry representatives, that all oil and gas taxpayers are required to file a personal property declaration schedule. These schedules must be completely filled out, signed, and filed with the county assessor.

Extension of filing deadlines beyond April 15 for receipt or postmark of the DS 658, Oil and Gas Real and Personal Property Declaration, and the lengths of these extensions are solely at the discretion of the county assessor pursuant to § 39-7-101(2), C.R.S. If granted, such extensions are without charge to the taxpayer. However, in the absence of the assessor granting such an extension or after a granted extension period has elapsed, \$100 per calendar day penalty can be imposed up to a \$3,000 per calendar year maximum for each schedule.

If the operator has previously rendered a complete list by well name, then the operator will not be required to render such a list in the future. The operator only needs to provide annual additions or deletions.

It is suggested that assessors send a form letter along with the declaration schedule to operators within the county requesting an itemized listing of their oil and gas equipment. The letter should explain that such a listing is required by § 39-5-107, C.R.S., and should include the following information.

1. Itemized listing of all equipment, including but not limited to:
 - a. Down-hole equipment including sucker rods and submersible pumps (Casing and tubing should not be listed since they are included in the value of the leasehold)
 - b. Wellhead equipment complete with pipes and valves
 - c. Surface pumping units with gas engine or electric motor
 - d. Treating equipment including separators, heaters, free water knockouts, gas production units, dehydrators, etc.
 - e. Storage and loading facilities
 - f. Metering devices and equipment, including meter house if owned by the producer
 - g. Flow lines and related equipment
 - h. Pressure maintenance and secondary recovery equipment
 - i. Electric, automatic, and computerized controls
 - j. Power lines and poles, transformers, and communication lines
2. A comment noting that the description of the item should include the following: manufacturer, model, capacity size, length, diameter, etc.; whether the equipment is installed or stored at the wellsite; and any other information necessary for identification and valuation

3. An explanation as to why, on future declaration schedules, the owner will need to furnish only additions and deletions since the assessor can update the original itemized listing from such information

Physical Inventory by the Assessor

The assessor should implement a program for the physical inspection and listing of all oil and gas equipment in the county. This enables the assessor to compare the listings rendered by each operator with the physical inventory obtained by field inspection, determine the items missing from the incomplete declarations, and become more familiar with the equipment in the county's oil and gas fields.

Before making a physical inspection and listing of the equipment, the assessor or appraiser should contact someone with authority for the particular lease, such as the operator, tax representative, production foreman, or pumper. These people are then aware that the appraiser will be present on the lease site, taking inventory.

At the time of inspection, the appraiser, using the Valuation Worksheet found later in the chapter, should list the following information for each item of equipment:

1. Type of equipment, such as surface pumping unit, separator, treater, gas production unit, oil storage tank, etc.
2. Make, model, and description, including size, diameter, height, etc., or any other information necessary to adequately describe the particular item
3. Year manufactured or estimated age
4. Condition of equipment
 - a. See ***STEP #7 – Condition of Equipment***, in this chapter, for the guidelines on evaluating equipment.
5. Whether the equipment is installed or stored at the wellsite
6. Ownership – taxable property in Colorado is generally assessable only to the owner thereof

The Glossary photographs are provided as an aid in identifying equipment.

STEP #2 – PRODUCTION TOTAL

The BELs in this chapter are based on the production of all fluids, both oil and water, or the production of gas. The equipment needed on a lease is directly related to the volume of production. Therefore, it is important to determine the production total.

Request Information From Operator

Oil and gas operators are required to provide the average flow rate of each product produced at each well. The information should include oil, water, and gas production. The flow rates on multiple well leases should be determined by well. However, total production can be divided by the number of wells to determine an average flow rate for each well.

In determining whether any given well should be classified as a “stripper well”, the assessor should request the total number of days that the well was capable of operation. The assessor should then determine the type of well (oil or gas) and calculate the average flow rate per day by dividing the oil or gas production amount declared by the number of days the well was capable of operation. If the resulting number is 10 barrels (Bbls) of oil per day (or less), or 60 Mcf (1000 cubic feet) of gas per day (or less), the well should be classified as a stripper well and valued using the minimum condition grid.

To determine the number of days the well was capable of operation, subtract the number of days the equipment was not operated because of maintenance or mechanical reasons from the total calendar days in a year (365).

If the operator fails to submit flow rate information, the assessor should determine the average operating days for other wells within the field and calculate a “Best Information Available” flow rate for stripper well designation and well valuation purposes.

An example of the flow rate calculation for both stripper well designation and the actual well valuation is shown below.

Example:

STRIPPER WELL DESIGNATION

Previous calendar year **oil** production 2550 Bbls
(product quantity only – no water)
Number of days (365 days – 65 days) 300 days

Flow rate per day 8.5 Bbls/day (used to determine Stripper Well classification)

Example:

WELL FLOW RATE CALCULATION FOR VALUATION

Previous calendar year **fluid** production 28000 Bbls
(oil product and water)
Number of days (365 days – 65 days) 300 days

Flow rate per day: 93 Bbls/day (used to determine volume (Barrels) in BEL grid)

Verification by Assessor

The assessor can audit the information provided by the taxpayer in the following ways.

1. Request information from the Colorado Oil and Gas Conservation Commission (COGCC).

Colorado Oil and Gas Conservation Commission
The Chancery Building
1120 Lincoln Street, Suite 801
Denver, CO 80203
(303) 894-2100

Operators are required to report oil production, water production, and gas production by well to the COGCC on a monthly basis. The information can be accessed on the COGCC website. See **ARL Volume 3, Addendum 6-H, Instructions for Accessing the COGCC Website**, for instructions.

2. Check for reasonableness by dividing production reported per well in Section C of the DS 658 by 365 days.

The average flow rate should equal or exceed the quotient because the method assumes that there were no days the well was shut down.

STEP #3 – WELL DEPTH

Operators are required to provide the depth of each well. This should be the depth of the perforation into the deepest producing reservoir. A well is often drilled deeper than the depth of the perforations to test for additional reservoirs. The assessor can audit the information by requesting completion reports from the COGCC.

STEP #4 – METHOD OF PRODUCTION

The BELs have been developed based on the method of lift, i.e. flowing or pumping. The operator should provide the information. The assessor can audit the information by reviewing data gathered by the physical inventory. For instance, if a pumping unit is present, the assessor knows that artificial lift is being employed. If the inventory does not meet the test of reasonableness, the operator should be contacted.

STEP #5 – GEOLOGICAL BASINS

The BELs have been developed after consideration was given to the different equipment necessary to produce oil and gas in the various basins within the state. The American Association of Petroleum Geologists (AAPG) has identified 13 basins in Colorado. In five of these basins, little or no oil or gas activity currently exists. Because of this, corresponding BELs do not exist for these basins. Refer to **Addendum 6-A, County/Basin Cross Reference**, found later in this chapter, to determine which basin's BELs to use for valuing equipment in a particular county.

STEP #6 – SELECTION OF APPROPRIATE BEL

The correct BEL can now be determined. The BELs are categorized by basin, primary product, and method of lift. Choose the BEL that best conforms to the equipment on the well in question, within the particular basin. If an appropriate BEL cannot be found within the particular basin, the appraiser may use alternate basins to find a BEL that best conforms to the equipment on the subject well. The Division should be advised if alternative basins are used because additional BEL's may be required for the subject basin.

When determining whether a well should be classified as an oil well or gas well, the assessor first compares the actual equipment on the wells to the BEL equipment configuration to determine which well type, i.e. oil or gas, exists.

For example, gas wells will generally have a gas production unit (separator) to prepare the gas for insertion into the gas gathering system. On oil well sites, a treater or heater/treater can be found which processes the production emulsion into separate oil and water products. The oil product is then stored in storage tanks, either at the wellsite or in a tank battery.

If the assessor is unable to make the appropriate well type determination, the BELs for both an oil well and a gas well should be reviewed, and the BEL that represents the type of well commonly found within the field should be used. If there is still uncertainty about the well type, the assessor should contact the operator to confirm the well classification or contact the Colorado Oil and Gas Conservation Commission (COGCC) and use the original well type reported to them.

STEP #7 – CONDITION OF EQUIPMENT

Three Valuation Grids have been created for each BEL based on the condition of the equipment and status of the well. The grids establish market values for very good condition equipment, average condition equipment, and minimum condition equipment.

In determining the condition of the equipment the assessor should compare information collected from physical inspections with the information reported by the operator on the declaration schedule. If the assessor discovers discrepancies, the operator should be contacted for clarification. However, new equipment on new wells and equipment on shut-in wells will be valued as either very good or minimum, respectively. The descriptions listed below for equipment condition are intended to be guidelines and are not necessarily the sole criteria. The final determination of equipment condition is the assessor's responsibility.

The values on the *Additional Installed Equipment List* and the *Stored Equipment List*, found later in this chapter, are also based on the condition of the equipment. The condition of additional installed and/or stored equipment at the lease site should be determined independently from the condition of the equipment listed on the BEL.

Choose the grid, under the appropriate BEL, which corresponds to the condition rating of the equipment.

Very Good

The equipment is in near-perfect to perfect working condition. It has had limited use and has a long service life ahead.

Average

The equipment is in good mechanical condition and needs no major repairs or maintenance. The key is the condition of the equipment in total. The existence of one or two pieces of very good condition or minimum condition equipment will not necessarily move the overall condition rating in those directions.

Minimum

The equipment has had a substantial amount of service, a limited amount of use remains. Equipment more than 20 years old should generally be classified as minimum condition equipment unless there is evidence that the equipment has recently undergone major overhaul, substantial reconditioning, or re-fabricating. If the assessor feels the equipment has undergone reconditioning or major overhaul, the assessor should refer to the declaration schedule filed by the operator or contact the operator for additional information.

STEP #8 – STRIPPER WELL STATUS (MARGINAL PRODUCTION)

Oil wells producing an average of 10 barrels or less per day, or gas wells producing 60 Mcf or less of gas per day, should be designated as “stripper wells” for equipment valuation purposes. The number of days must be calculated based on days during the year the well was capable of operating. This classification applies to primary, secondary, and tertiary recovery wells and is based on product volumes only, without consideration of water production.

New wells cannot be classified as stripper wells until they have at least 12 calendar months of production data available. New wells may have minimal production when first drilled, but then produce substantially more oil or gas after a short period of time in production.

Equipment associated with stripper wells, e.g. tank batteries, injection wells, etc., is to be valued using the minimum condition grid associated with the respective BEL for the well, if the number of stripper wells exceeds the number of non-stripper wells associated with the equipment. Otherwise the condition is to be determined based on a physical inspection of the associated equipment. In all cases, adequate documentation should be developed to support the condition rating assigned.

If any additional installed equipment exists, find its value, based on condition, on the ***Additional Installed Equipment List***, found later in this chapter. Add that value to the grid value to determine the total value of the equipment on the well. Do not add for any additional equipment not shown on the Additional Installed Equipment list.

If there is stored equipment at the wellsite, find its value, based on condition, on the ***Stored Equipment List***, found later in this chapter. Add this value to the above values to reach a total value for the well.

The Additional Installed Equipment List and the Stored Equipment List are statewide lists. They are not basin specific.

STEP #9 – APPLY LEVEL OF VALUE ADJUSTMENT FACTOR

To adjust to the specified year’s level of value, multiply the current actual value by the specified year’s adjustment factor. The adjustment factor is sometimes referred to as the “rollback factor.”

The 2006 adjustment (rollback) factor is: 0.91

STEP #10 – MULTIPLY BY THE 29 PERCENT ASSESSMENT RATE

WASTE OIL RECYCLING OPERATIONS

Tanks and separators that are associated with operations, which recycle holding pond oil, are not included in the Basic Equipment Lists (BEL) within this chapter. However, tanks and separators have been added to the Additional Installed Equipment List so that these operations may be valued by summing component values from the Additional Installed Equipment List. The use of tank and separator values on the Additional Installed Equipment List is restricted to only these recycling operations. They are not to be added to any other BEL.

LEASED/LOANED EQUIPMENT INCLUDED IN THE BELS

If any of the equipment included within a BEL is leased or loaned to the operator, it is recommended that the assessor contact the operator to determine the proper allocation. If there is uncertainty as to how the situation is properly treated, the assessor should contact the Division of Property Taxation.

BASIC EQUIPMENT LISTS AND VALUATION GRIDS

Basic Equipment Lists have been developed for the following basins that have been defined by the American Association of Petroleum Geologists:

- Anadarko Basin
- Denver-Julesburg (D-J) Basin
- Green River Basin
- Las Animas Arch Basin
- Paradox Basin
- Piceance Basin
- San Juan Basin
- Las Vegas-Raton Basin

BELs have not been developed for the following basins in Colorado. If a county is in one of these basins, refer to the county-by-county listing in the appendix for the alternate basin:

- Eagle Basin
- San Juan Mountain Province
- North Park Basin
- South Park Basin
- San Luis Basin

Within each basin, BELs have been developed for various types of production including the following:

1. Pumping Oil Well With Tanks
2. Pumping Oil Well Without Tanks
3. Flowing Oil Well With Tanks
4. Flowing Oil Well Without Tanks
5. Pumping Gas Well With Tanks
6. Pumping Gas Well Without Tanks
7. Flowing Gas Well With Tanks
8. Flowing Gas Well Without Tanks
9. Common Tank Battery
10. Water Injection Well
11. Water Supply Well

In addition to the eleven wellsite configurations listed above, certain basins required new wellsite configurations such as, Coal Seams Gas Wells, Plunger Lift Gas Wells, Progressive Cavity Wells, Electric Submersible Pump (ESP) Wells, Hydraulic Lift and Hydraulic Pump Wells, to name a few.

HISTORY OF THE BASIC EQUIPMENT LISTS

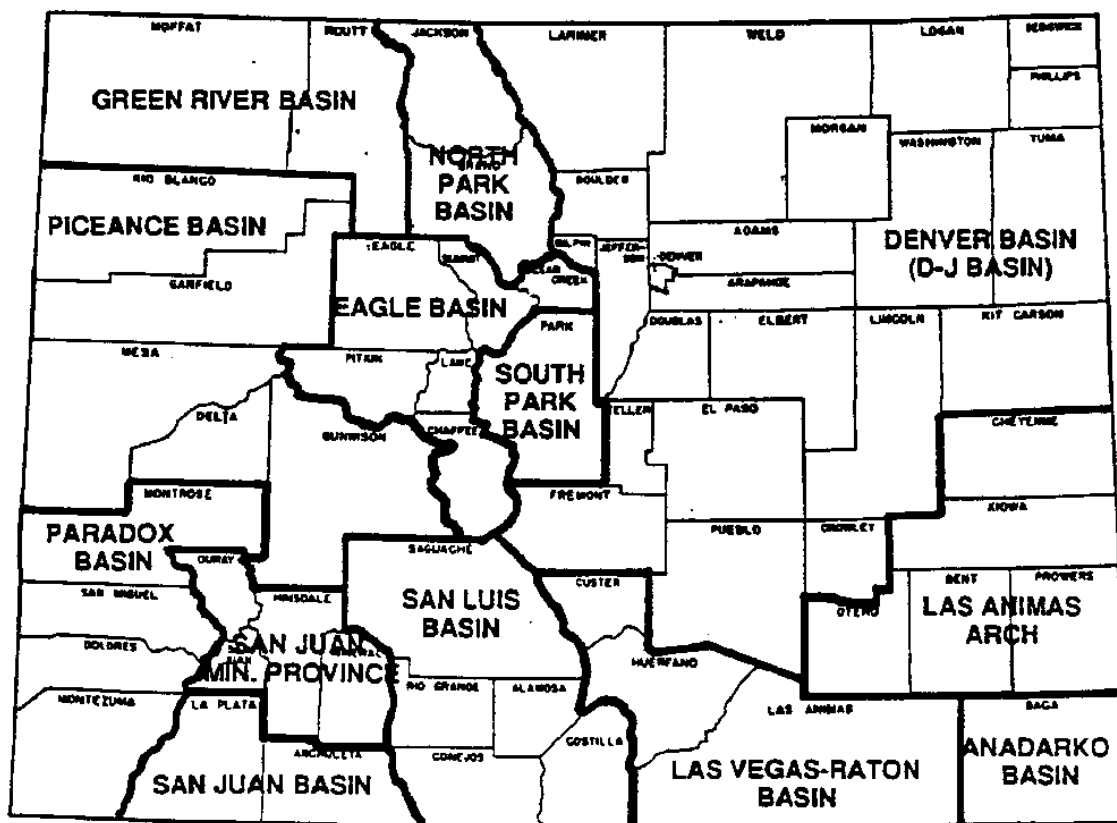
Before the Basic Equipment Lists (BELs) were created, all assessors valued oil and gas equipment using the Cost Approach, which required annual submissions of original costs on large inventories of equipment for thousands of wells. The process was very time consuming for industry. Even more time consuming for assessment personnel was verifying data on all the equipment listed, trending to the assessment date, determining physical depreciation, trying to determine if functional or external obsolescence applied to the equipment, and then calculating the value and rolling it back to the level of value for the appraisal date.

The BELs were created and first published in 1990, utilizing the Market Approach, instead of the Cost Approach. The objective was to reduce the workload of both assessment and industry personnel, while recognizing and properly dealing with obsolescence in oilfield equipment. To properly recognize obsolescence, the BELs were based on engineering statistics. A common misconception about the BELs is that they were meant to reflect what is typically found at the wellsite. From their inception, the BELs were designed to reflect what would be typically engineered for a particular wellsite. Engineered configurations indicate what is necessary to produce oil or gas at a given depth, at a given rate of production per day. Any equipment being used on site with greater ability or capacity than that which was engineered to produce such oil or gas is essentially super-adequate to operate the well. By utilizing engineered wellsite configurations in the BELs, super-adequate functional obsolescence is eliminated.

For instance, a 4' x 15' vertical heater/treater may be all that is necessary to handle the production of a pumping oil well at a certain depth. However, instead of purchasing a new 4' x 15' heater/treater to place at the wellsite, the operator may utilize a 6' x 20' vertical heater/treater that the operator has on hand. A 6' x 20' unit is a larger, more expensive unit and is super-adequate for the needs of the well. Instead of valuing the 6' x 20' unit at the site, the BELs pick up the value of a 4' x 15' unit, thus accounting for the functional super-adequate obsolescence of the larger unit.

Note: Using the Cost Approach for the same valuation would require the appraiser to determine the replacement cost new of the unit, deduct for physical depreciation, determine the super-adequate functional obsolescence and then deduct for it, as well. The final outcome would be about the same as the value of a 4' x 15' unit, the same age, without functional obsolescence, except that much more work would be required to get there.

Therefore, the operator who is using a 6' x 20' unit is assessed at the same level as the operators who have 4' x 15' heater/treaters in place. This principle of recognizing obsolescence through the Market Approach in the BELs was accepted and approved by both assessors and industry involved in the first publication of the BELs.



Other BEL's have been developed in certain basins where special circumstances warrant additional BEL's.

The BEL is a list of the taxable equipment necessary to:

1. Produce the fluid from the reservoir to the mouth of the well
2. Separate the fluids into the basic components – oil, gas, and water
3. Store and transport the products to the custody transfer point

The custody transfer point for oil is considered to be the inlet of the LACT unit or the outlet of the oil storage tank or tank battery; whichever is appropriate for each lease. The custody transfer point for gas is considered to be the inlet to the gas meter run. If the producer maintains custody of the production beyond the lease line, then the custody transfer point will be considered to be the lease line.

The grids list the value of the equipment based upon a particular range of depths and a particular range of volume produced. Each grid will value the equipment for a particular condition – very good, average, minimum. More or less equipment may exist on any given well. However, the most appropriate BEL should be chosen and the corresponding value from the grids assigned to that well. All other oil and gas equipment, e.g. field compressors, are subject to local assessment by the county assessor.

MARKET VALUE OF ADDITIONAL INSTALLED EQUIPMENT

In addition to the BELs, certain specific equipment, which is atypical to the wellsite, should be listed and valued. The equipment is called “Additional Installed Equipment” on the well. This is the only installed equipment that should be added to the value of the equipment listed on the BEL.

Additional equipment is characterized by its unique nature or its nonstandard ownership. For example, gas meters are included as additional equipment because it has been specifically stated that the BELs list the equipment up to but not including the custody transfer point. However, in some cases the operator owns the gas meter and therefore the value of the gas meter should be added to the total value of the equipment for that particular operator.

VALUATION PROCEDURES

The steps for determining the value of Additional Installed Equipment are virtually the same as the steps for determining the value of installed equipment. For more information refer to the *Approaches To Value* topic at the beginning of this chapter.

The values in the following Additional Installed Equipment List are based on the same condition grading scale as the valuation grids – very good, average, and minimum condition equipment. It should be noted that the values on the list are statewide and not basin specific, except for the category of “Wellheads.”

WELLHEADS AS ADDITIONAL EQUIPMENT

Dual Wellheads

The first two categories of Wellheads listed are: Flanged Wellhead (Total Value) and Threaded Wellhead (Total Value). These values have been supplied so that wells having dual wellheads might be properly valued. Dual wellheads are being used in the extraction of gas from one formation and oil from a second formation located either above or below the first formation. Since the same wellbore is being used, a cost savings is implied. The appropriate BEL to use would be based on the preponderance of production and the type of equipment being used at the wellsite. Please note that values for Flanged Wellhead (Total Value) and Threaded Wellhead (Total Value) are not to be used outside of the dual-well application.

Flanged Wellheads

Flanged wellheads are considered typical for the four basins listed below. Except for the Coal Seams Gas BELs in the San Juan Basin, flanged wellhead market values were included in the development of all the BEL grids in the following basins:

Green River Basin

Piceance Basin (including Rangely Oilfield)

Paradox Basin

San Juan Basin (except Coal Seams Gas Wells)

Flanged wellheads can be identified by the circle of bolts near the perimeters of both the Casinghead and the Tubinghead.

Threaded Wellheads

Threaded wellheads are considered typical for the remaining basins, which are listed below. Threaded wellhead market values were included in the development of all the BEL grids in these basins:

Anadarko Basin	Las Animas Arch Basin
Denver-Julesburg Basin	Las Vegas-Raton Basin

Threaded wellheads can be identified by the ability of the Casinghead and Tubinghead to be screwed on to the casing and tubing. There is an absence of bolts. The caps of the Casinghead and Tubinghead have three heavy-duty, exterior prongs that allow them to be tightened by a tool.

Combination Wellheads (Threaded Casinghead/Flanged Tubinghead)

The term “flanged/threaded combo” refers to a wellhead with a threaded Casinghead and a flanged Tubinghead. This combination wellhead is gaining popularity as a safety measure. In the event that a flanged/threaded combo wellhead is discovered or declared on a well in the Anadarko, Denver-Julesburg, Las Animas Arch, or Las Vegas-Raton basin, a “Flanged/Threaded Combo (Differential)” value for the appropriate condition may be added as Additional Installed Equipment. The “Differential” represents the difference between the typical threaded wellhead value and the value of the more expensive flanged/threaded combo wellhead. This “Differential” should be added to the total value of the wellsite equipment. Differential values are not to be used in conjunction with any other basins than those cited in this paragraph.

Atypical Wellhead Use

In the event that a flanged wellhead is discovered or declared on a well in the Anadarko, Denver-Julesburg, Las Animas Arch, or Las Vegas-Raton basin, a “Flanged Wellhead (Differential)” value for the appropriate condition may be added as Additional Installed Equipment. The “Differential” represents the difference between the typical threaded wellhead value and the value of the more expensive flanged wellhead. This “Differential” should be added to the total value of the wellsite equipment. Differential values are not to be used in conjunction with any other basins than those cited in this paragraph.

VAPOR FLARE/RECOVERY SYSTEMS

In 2004, the Colorado Department of Public Health and Environment (CDPHE) determined that flash emissions from qualifying oil condensate tanks located in the CDPHE designated Eight-hour Ozone Control Area be controlled by one of two methods – by flaring those emissions in a controlled environment or by capturing, compressing, and re-injecting the emissions into a gas system. Note that values for Vapor Flare Systems and Vapor Recovery Systems are not basin-specific and can apply to any tanks having such systems, statewide.

Vapor Flare System (Enclosed Stack)

Currently, oil and gas operators that produce a threshold of 600 barrels per day are required to install an Emission Control Device known as a Vapor Flare System to capture and burn oil condensate tank vapors in an enclosed stack to enhance air quality and prevent further erosion of the ozone layer. Typically, these Vapor Flare Systems are installed on tank batteries that service two or more wells; however, they can be installed on tanks at any given wellsite. A system will generally include 3-inch, interior-diameter pipe attached to the tops of the tanks through which vapors run to a scrubbing unit to remove water, then on to the flare stack for burning/flaring. A typical flare stack is 15 feet high and has from four to six burners, which are located approximately five feet off the ground, to dispose of the vapors.

Vapor Recovery System

The other Emission Control Device being used by some oil and gas operators is called a Vapor Recovery System. Such systems gather emissions the same as the flare systems, except that instead of burning the emissions, these vapors are scrubbed and then compressed so that they can be injected into a standard gas pipeline system. This method achieves the directive to keep flash emissions from damaging the ozone layer, but goes a step further by conserving natural resources. These systems are more costly, because the flare stack is replaced with a compressor, a compressor engine, and sophisticated monitoring equipment.

Add the value of any additional installed equipment to the value of the BEL, along with any stored equipment, to determine the final value for all the equipment at the wellsite.

ADDITIONAL INSTALLED EQUIPMENT LIST

Description	Condition Rating		
	Very Good	Average	Minimum
RADIO TELEMETRY			
Unit (RTU) (Master)	31,500	22,000	5,500
(Large)	7,500	3,440	860
(Small)	5,100	2,090	520
Cathodic Protection Unit			
with Rectifier	1,360	690	170
with Solar Panels	6,250	2,580	640
Gas Meter Run	3,880	2,120	630
LACT Unit	16,790	8,610	2,150
Gas Booster Line			
Compressor (15-30 H.P.)	20,580	10,010	2,500
In-Line Heater	5,490	2,760	690
Triplex Water Injection Pump			
75 H.P. Electric Motor	17,920	9,260	2,120
Chemical Pump	990	490	220
Recycle Pump	1,030	640	160
Free Water Knockouts			
30" x 10'	3,700	2,220	560
4' x 10'	5,400	3,250	810
6' x 10'	6,250	3,740	930
8' x 10'	8,790	5,210	1,300
4' x 15'	5,790	3,470	870
6' x 15'	7,070	4,230	1,060
Dehydrator			
Average of All Sizes	13,610	7,920	1,980
Wellheads			
Flanged Wellhead (Total Value)*	4,770	1,720	600
Threaded Wellhead (Total Value)*	1,250	750	200
Flanged Wellhead (Differential)**	3,520	970	400
Flanged/Threaded Combo (Differential)**	2110	850	330
Vapor Recovery System	14,500	8,700	2,180
Vapor Flare System (Enclosed Stack)	10,000	6,000	1,500
Sound Panels (Galvanized Steel):			
Wall Panels (Padded 2' x 8' per sheet)	50	40	10
Roof Panels (Padded 2' x 8' per sheet)	50	40	10

Description	Condition Rating		
	Very Good	Average	Minimum
Waste Oil Recycling Operations Only:			
Tank (1) 300 BBL	5,890	2,940	1,350
Separator 30" x 10' Vertical	4,810	2,320	580
Separator 24" x 10' Horizontal	7,550	3,960	990

*For use only with wells having dual wellheads on the same wellbore.

**For use only in Basins where Threaded Wellheads are typical. (See VALUATION PROCEDURES.)

MARKET VALUE OF STORED EQUIPMENT

The Stored Equipment List is to be used to value **taxable** stored equipment located at the wellsite, in a warehouse, or in an inventory yard, which is not listed as inventories of merchandise for sale on a company's books and records. In order for stored oil and gas equipment to be considered inventory held for sale and therefore exempt from property taxation, the owner must provide a detailed listing of the items held for sale to the county assessor. **In order for any other stored equipment to be taxable, it must have been put into use, by the current owner, at some time prior to the current assessment date and then afterward have been placed into storage.** The stored equipment list is never to be used to value installed wellsite equipment.

VALUATION PROCEDURES

The steps for determining the value of stored equipment are virtually the same as the steps for determining the value of installed equipment. For more information refer to the *Approaches to Value* topic at beginning of this chapter. The values in the following Stored Equipment List are based on the same condition grading scale as the BEL valuation grids - very good condition equipment, average condition equipment and minimum condition equipment. It should be noted that the values on the list are statewide and not basin specific.

If the stored equipment is located at the wellsite, then add the value of the stored equipment to the value of the BEL and any Additional Installed Equipment to determine the final value for the equipment at the wellsite. For equipment stored in a warehouse or yard, simply total the value of the equipment and place the value on the tax roll.

Wells that have been shut-in and capped or plugged and abandoned will be valued based upon their prior calendar year's production, if any. For shut-in and capped wells without any production during the prior calendar year, the wellhead should be listed and valued and any equipment stored at the wellsite should be listed and valued if it was not held for sale. For plugged and abandoned wells without any production during the prior calendar year, only the value of the equipment stored at the wellsite should be listed and valued if it was not held for sale.

The majority of typical oil field equipment has been included in the following stored equipment list. However, if the producer declares equipment not listed, or if the assessor cites equipment not listed, then the assessor should determine the value of the equipment in the following manner. If the equipment is in very good condition, then the assessor should contact the operator to determine the cost of the equipment not listed. If the equipment is in average condition or minimum condition then the assessor should contact used equipment dealers in the area and request market value estimates of the equipment. The Division of Property Taxation can also aid in determining equipment market values.

STORED EQUIPMENT LIST

Description	Condition Rating		
	Very Good	Average	Minimum
Separators			
16" x 5' Horizontal High Pressure	2,220	1,120	280
30" x 10' Vertical Low Pressure	4,320	2,040	510
30" x 10' Horizontal High Pressure	12,450	5,950	1,480
36" x 10' Vertical Low Pressure	4,650	3,150	790
24" x 10' Horizontal High Pressure	6,640	3,480	870
Gas Production Units			
16" x 8' 250MBTU	8,580	4,640	1,160
16" x 8' 500MBTU	9,370	5,020	1,260
Heater Treaters			
4' x 15' Horizontal	11,950	7,450	1,860
4' x 15' Vertical	10,800	6,990	1,750
6' x 20' Horizontal	11,950	7,310	1,830
6' x 20' Vertical	11,380	7,050	1,760
Dehydrators			
Average of All Sizes	11,980	6,970	1,740
Tanks			
95 Barrel	2,710	1,350	330
110 Barrel	3,150	1,580	400
210 Barrel	3,750	1,960	1,050
300 Barrel	5,180	2,590	1,190
400 Barrel	8,400	2,930	1,320
Pumping Units			
Model # 25	4,530	2,270	560
Model # 57	7,880	3,850	970
Model # 80	14,070	7,490	1,870
Model # 114	16,950	8,330	2,090
Model # 160	20,280	9,060	2,270
Model # 228	25,410	12,710	3,190
Model # 320	30,400	16,400	4,100
Model # 456	34,960	17,440	4,360
Model # 640	48,140	21,380	5,350
Model # 912	51,320	24,400	6,110
Hydraulic Pumping Units	3,110	1,870	450

Description	Condition Rating		
	Very Good	Average	Minimum
Casingheads/Tubingheads			
2000#	530	350	90
3000#	590	400	100
5000#	710	480	120
Wellheads			
Flanged	4,200	1,510	530
Threaded	1,120	670	170
Codell/Nibrara Formation	6,200	2,790	700
Rangely Stainless/Steel	17,400	6,970	1,740
Flowlines (per foot)			
2" Poly Pipe	1.00	0.68	0.10
3" Poly Pipe	1.44	0.98	0.10
2" Fiberglass Pipe	2.76	1.90	0.10
3" Fiberglass Pipe	2.80	2.00	0.10
2" Steel Pipe	1.15	0.78	0.15
3" Steel Pipe	3.25	2.21	0.15
Sucker Rod Pumps (Down Hole Pumps)			
1-1/4"	900	600	150
1-1/2"	1,120	690	170
1-3/4"	1,290	730	180
2"	1,700	750	260
2-1/4"	1,950	900	230
Sucker Rods (per foot)			
1/2"	\$1.40	\$0.70	\$0.18
5/8"	1.58	0.80	0.22
3/4"	1.75	0.96	0.26
7/8"	2.82	1.30	0.30
1"	3.40	1.60	0.35
1-1/8"	3.72	1.76	0.44
Gas Engines			
15 H.P.	3,690	2,870	720
20 H.P.	4,100	2,970	750
25 H.P.	4,510	3,590	900
30 H.P.	5,420	3,890	990
40 H.P.	5,450	4,040	1,010
50 H.P.	6,080	4,480	1,120
60 H.P.	6,400	4,760	1,190

Description	Condition Rating		
	Very Good	Average	Minimum
Gas Engines (Cont'd.)			
70 H.P.	6,790	5,270	1,320
75 H.P.	7,320	5,550	1,390
80 H.P.	7,830	6,090	1,520
90 H.P.	8,050	6,560	1,640
100 H.P.	9,500	6,650	1,660
110 H.P.	10,270	7,190	1,800
Electric Motors			
20 H.P.	1,020	580	150
60 H.P.	2,430	1,580	400
Control Panels			
Number 3	1,270	630	160
Number 4	1,470	830	210
Number 5	3,000	1,500	375
Triplex Water Injection Pumps			
75 H.P. Electric Motor	15,770	8,150	2,040
Chemical Pumps	870	430	190
Gas (Line) Compressors	18,100	8,800	2,200
In-Line Heaters	4,830	2,430	610
Recycle Pumps	910	560	140
Gas Meter Run with House	3,410	1,870	550
Free Water Knockouts			
30" x 10'	3,260	1,950	490
4' x 10'	4,750	2,860	720
6' x 10'	5,500	3,290	820
8' x 10'	7,740	4,580	1,150
4' x 15'	5,090	3,050	760
6' x 15'	6,220	3,720	930

Other stored equipment market values may be obtained by contacting the Division of Property Taxation.

EXAMPLES

EXAMPLE WELL EQUIPMENT APPRAISAL #1

You are valuing oil and gas equipment associated with a producing oil well in Prowers County, which is in the Las Animas Arch Basin. The well, which has a depth of 5,300 feet, was completed in 1993 and produces oil, some associated gas, and water. Daily flow rates declared for the well are: oil-450 Bbls per day, water-150 Bbls per day, gas-220 Mcf per day.

The operator has filed a DS 658 declaration listing the following equipment in average condition:

Wellhead	Two 400 Bbl Oil Storage Tanks
Model 320 Lufkin Pumping Unit	One 210 Bbl Water Storage Tank
35 H.P. Gas Engine	600' Flowline
1,800' of 3/4" Sucker Rod	Small Radio Telemetry Unit (RTU)
3,500' of 5/8" Sucker Rod	Gas Meter Run
Rod Pump	Vertical Heater/Treater

All equipment was manufactured in 1992 with the following exceptions: heater/treater (1995) and RTU (1997). You have physically inspected the well site and found the equipment, except for the RTU, to be in average condition as described in ***STEP #7 – Condition of Equipment*** earlier in this chapter. The model AI-1000 RTU appears new and is in very good condition. The gas purchaser owns the gas meter run.

Using the BELs listed for the Las Animas Arch Basin, you find that the equipment declared generally conforms with the BEL titled Total Value Pumping Oil Well With Tanks (Gas Engine). Based on the declared and observed condition for the equipment, you determine the Average Condition grid should be used.

The depth of the well is greater than 5,000 feet but less than 5,500 feet. Using the grid intersection of 5,500 feet and 600 barrels per day, the base equipment value of \$64,409 is noted. The RTU is not on the equipment list for the BEL but is noted on the Additional Installed Equipment List. The value for an installed small RTU in very good condition is \$5,100. Since the purchaser owns the gas meter run, it will not be valued here. However, it should be valued and assessed separately to the gas purchaser.

Adding the base equipment value of \$64,409 to the additional equipment value of \$5,100 results in a total value of \$69,509. The total value of \$69,509 multiplied by the specified year adjustment factor of 0.91 indicates an actual value of **\$63,253** for all of the well equipment.

Oil and Gas Equipment Valuation Worksheet
State of Colorado
Example #1

ARCH EXPLORATION
 Name of Taxpayer
1270 BROADWAY, DENVER
 Address of Taxpayer
NE 1/4 13-57-79
 Location of Property

ID# Schedule A-103255
 Production Year 2005 Page 1 of 1
LAS ANIMAS #1
 Lease Name

<u>Method Of Production</u>	<u>Average Daily Flow Rate</u>	<u>Well Depth</u>
Flowing___Pumping <u>X</u>	Oil(Bbbls) <u>450</u> Gas(Mcf) <u>220</u> Water(Bbbls) <u>150</u>	<u>5,300 Ft.</u>

<u>Type of Equipment</u>	<u>Make</u>	<u>Model</u>	<u>Size</u>	<u>Year</u>
WELLHEAD				1993
PUMPING UNIT	LUFKIN	320		1993
GAS ENGINE FORD			35 HP	1993
HEATER/TREATER				1995
(2)OIL STORAGE TANKS			400 Bbbls	1993
(1)WATER STORAGE TANK			210 Bbbls	1993
2" FLOWLINE			600'	1993
3/4" SUCKER ROD			1,800'	1993
5/8" SUCKER ROD			3,500'	1993
ROD PUMP				1993
RADIO TELEMETRY UNIT		AI-1000		1997

GAS METER RUN (ASSESSED TO GAS PURCHASER – COLORADO INTERSTATE GAS)

Basic Equipment List (Title): PUMPING OIL WELL WITH TANKS (GAS ENGINE)

Condition of Basic Equipment	VG___	AV <u>X</u>	MIN___
Condition of Additional Installed Equipment	VG <u>X</u>	AV___	MIN___
Condition of Stored Equipment	VG___	AV___	MIN___

Value from BEL Valuation Grid	\$64,409
Value from Additional Equipment List	\$ 5,100
Value from Stored Equipment List	\$ 0
Total Value for Wellsite	\$69,509
Specified Year's Adjustment Factor	x 0.91
Specified Year's Level of Value	<u>\$63,253</u>

EXAMPLE WELL EQUIPMENT APPRAISAL #2

You are to appraise the oil and gas equipment on a producing well located in Montezuma County. The operator of the well has reported the following information on this year's DS 658: the well was completed in 1998 and has a depth of 7,900 feet. The well flows naturally and primarily produces gas with some associated water. The flow rate of the gas is 275 Mcf per day with 4 Bbls per day of associated water. The gas is metered and flows in a gas gathering system. The gas meter is owned by the purchaser.

You have physically inspected the wellsite and have noted the following:

Wellhead
Production Unit
Dehydrator
1000' Flowline
Gas Meter Run

The equipment was new, at the time of installation, and the observed condition, on the date of inspection, was average condition, as defined in ***STEP #7 – Condition of Equipment*** earlier in this chapter.

Referring to **Addendum 6-A, County/Basin Cross Reference**, located later in this chapter, the appraiser determines that the subject property is located within the Paradox Basin.

Comparing the listed equipment with the BELs for the Paradox Basin, you determine that the equipment most closely conforms to a Total Value Flowing Gas Well with Dehydrator and Without Tanks. Based on the observed condition for the equipment, you determine the Average Condition grid should be used. The depth of the well is greater than 7,500 feet but less than 8,000 feet and the gas production is greater than 250 Mcf per day but less than 350 Mcf per day.

Using the grid intersection of 8,000 feet and 350 Mcf per day, the base equipment value is \$17,600. The gas meter is owned by the gas purchaser and will not be valued here. However, it should be valued and assessed separately to the gas purchaser. The indicated total value for the well site equipment of \$17,600 is then multiplied by the specified year adjustment factor of 0.91 for an actual value of **\$16,016**.

Oil and Gas Equipment Valuation Worksheet
State of Colorado
Example #2

FOUR CORNERS PRODUCTION CO.
 Name of Taxpayer
1500 MAIN ST. FARMINGTON, NM
 Address of Taxpayer
NE 1/4 SW 1/4 29-59-52
 Location of Property

ID# 122742

Production Year 2005 Page 1 of 1

PARADOX #2
 Lease Name

Method Of Production	Average Daily Flow Rate	Well Depth
Flowing <u>X</u> Pumping <u> </u>	Oil(Bbls) <u> </u> Gas(Mcf) <u>275</u> Water(Bbls) <u> </u>	<u>7,900</u> Ft.

Type of Equipment	Make	Model	Size	Year
WELLHEAD				1998
PRODUCTION UNIT				1998
DEHYDRATOR				1998
FLOWLINE			1,000'	1998
GAS METER RUN (ASSESSED TO NORTHWEST PIPELINE CO.)				

Basic Equipment List (Title) FLOWING GAS WELL W/DEHYDRATOR W/O TANKS

Condition of Basic Equipment	VG <u> </u>	AV <u>X</u>	MIN <u> </u>
Condition of Additional Installed Equipment	VG <u> </u>	AV <u> </u>	MIN <u> </u>
Condition of Stored Equipment	VG <u> </u>	AV <u> </u>	MIN <u> </u>

Value from BEL Valuation Grid	\$17,600
Value from Additional Equipment List	\$ 0
Value from Stored Equipment List	\$ 0
Total Value for Wellsite	\$17,600
Specified Year's Adjustment Factor	x 0.91
Specified Year's Level of Value	<u>\$16,016</u>

EXAMPLE WELL EQUIPMENT APPRAISAL #3

You are valuing oil and gas equipment associated with a producing coal seams gas well in La Plata County, which is in the San Juan Basin. The well, which has a depth of 3,500 feet, was completed in 2001 and produces gas and water. Daily flow rates declared for the well are: water-557 Bbls per day, gas-356 Mcf per day.

The operator has filed a DS 658 declaration listing the following equipment:

Wellhead	Separator
Model 320 Lufkin Pumping unit	Water Storage Tanks
35 H.P. Gas Engine	250' Flowline
1,155' of 3/4" Sucker Rod	Small Radio Telemetry Unit (RTU)
2,310' of 5/8" Sucker Rod	Gas Meter Run
Rod Pump	

All equipment was manufactured in 1999. You have physically inspected the well site and found the equipment to be in very good condition as described in **STEP #7 – Condition of Equipment** earlier in this chapter. The gas meter run is owned by the operator and is also in very good condition.

Using the BELs listed for the San Juan Basin, you find that the equipment declared generally conforms with the BEL titled Total Value Pumping Coal Seams Gas Well With Tanks. Based on the observed condition for the equipment, you determine the Very Good Condition grid should be used.

Because this is a pumping coal seams gas well, water production flow rates will be used to determine values. The declared water production flow rate is greater than 500 Bbls per day and less than 600 Bbls per day. Using the grid intersection of 3,500 feet and 600 barrels per day, a base equipment value of \$99,332 is noted. The additional 100 feet of flowline is considered atypical for wells of this type and no additional value will be considered in the base equipment value.

The RTU is not on the equipment list for the BEL but is listed on the Additional Installed Equipment List. The value for an installed small RTU in very good condition is \$5,100. In this BEL, gas meter runs are included as part of the BEL and therefore will not be valued as an additional installed equipment item.

Adding the base equipment value of \$99,332 to the additional equipment value of \$5,100 results in a total value of \$104,432. The total value of \$104,432 is multiplied by the specified year adjustment factor of 0.91, which indicates an actual value of **\$95,033** for all well equipment.

Oil and Gas Equipment Valuation Worksheet
State of Colorado
Example #3

SAN JUAN GAS COMPANY
 Name of Taxpayer
78 S. YALE ST., DURANGO
 Address of Taxpayer
W 1/2 SW 1/4 36-18-95
 Location of Property

ID# 58577664
 Production Year 2005 Page 1 of 1
SAN JUAN #3
 Lease Name

<u>Method Of Production</u>	<u>Average Daily Flow Rate</u>	<u>Well Depth</u>
Flowing <u> </u> Pumping <u>X</u>	Oil(Bbls) <u> </u> Gas(Mcf) <u>356</u> Water(Bbls) <u>557</u>	<u>3,500</u> Ft.

Type of Equipment	Make	Model Size	Year
WELLHEAD			2001
PUMPING UNIT	LUFKIN	320	2001
GAS ENGINE		35 HP	2001
3/4" SUCKER RODS		1,155'	2001
5/8" SUCKER RODS		2,310'	2001
ROD PUMP			2001
SEPARATOR		6 x 20	2001
WATER STORAGE TANKS (2)		95 Bbls	2001
FLOWLINE		250'	2001
RADIO TELEMETRY UNIT		AI-1000	2001
GAS METER RUN			2001

Basic Equipment List (Title) PUMPING COAL SEAMS GAS WELL W/ TANKS

Condition of			
Basic Equipment	VG <u>X</u>	AV <u> </u>	MIN <u> </u>
Condition of			
Additional Installed Equipment	VG <u>X</u>	AV <u> </u>	MIN <u> </u>
Condition of			
Stored Equipment	VG <u> </u>	AV <u> </u>	MIN <u> </u>

Value from BEL Valuation Grid	\$ 99,332
Value from Additional Equipment List	\$ 5,100
Value from Stored Equipment List	\$ 0
Total Value for Wellsite	\$104,432
Specified Year's Adjustment Factor	x 0.91
Specified Year's Level of Value	<u>\$ 95,033</u>

EXAMPLE WELL EQUIPMENT APPRAISAL #4

You are to appraise the oil and gas equipment on a producing well located in Baca County. The operator of the well has reported the following information on his DS 658: the well was completed in 1992 and is 3,300 feet deep. The well is mechanically pumped and produces gas, oil, and water. The flow rate of the gas is 42 Mcf per day with 2 Bbls per day of oil, and 15 Bbls of water per day. The gas is metered and flows into a gas gathering system and the oil is stored in an on-site tank. The gas meter is owned by the purchaser.

You have physically inspected the well site and have noted the following:

Wellhead	Sucker Rods to Depth
Pumping Unit	Rod Pump
Electric Motor	210 Bbl. Water Storage Tank
Control Panel	Gas Meter Run
1000' Flowline	

The equipment was new, at the time of installation, and the observed condition, on the date of inspection, was average condition, as defined in ***STEP #7 – Condition of Equipment*** earlier in this chapter. The appraiser has also noted that the subject's well equipment is typical of gas producing wells within the same field as the subject.

Referring to **Addendum 6-A, County/Basin Cross Reference**, located later in the chapter, the appraiser determines that the subject property is located within the Anadarko Basin. Comparing the listed equipment with the BELs for the Anadarko Basin, you determine that the equipment most closely conforms to a **Total Value Pumping Gas Well With Tank (Electric Motor)**. The determination is also supported by noting that other equipment in the field is typical of gas production.

Based on the production of 42 Mcf per day of gas, the subject well qualifies as a stripper well. Based on the stripper well classification, the Minimum Condition grid should be used.

The depth of the well is greater than 3000 feet, but less than 3,500 feet. The total fluid pumped per day is 17 Bbls, which is less than 20 Bbls per day.

Using the grid intersection of 3,500 feet and 20 Bbls per day of fluid, the base equipment value is \$5,134. The gas meter is owned by the gas purchaser and will not be valued here. However it should be valued and assessed separately to the gas purchaser. The indicated total value for the well site equipment of \$5,134 is then multiplied by the specified year's adjustment factor of 0.91 for an actual value of **\$4,672**.

Oil and Gas Equipment Valuation Worksheet
State of Colorado
Example #4

BACA PRODUCERS INC.
Name of Taxpayer
SPRINGFIELD, COLORADO
Address of Taxpayer
N 1/2 NW 1/4 36-17-21
Location of Property

ID# 45921
Production Year 2005 Page 1 of 1
ANADARKO #4
Lease Name

<u>Method Of Production</u>	<u>Average Daily Flow Rate</u>	<u>Well Depth</u>
Flowing___Pumping <u>X</u>	Oil(Bbls) <u>2</u> Gas(Mcf) <u>42</u> Water(Bbls) <u>15</u>	<u>3,300 Ft.</u>

Type of Equipment	Make	Model	Size	Year
WELLHEAD				1992
PUMPING UNIT				1992
ELECTRIC MOTOR				1992
CONTROL PANEL				1992
WATER STORAGE TANK			210 Bbls	1992
FLOWLINE				1992
SUCKER RODS				1992
ROD PUMP				1992
GAS METER RUN (ASSESSED TO COLORADO INTERSTATE GAS)				

Basic Equipment List (Title) PUMPING GAS WELL WITH TANKS

Condition of Basic Equipment	VG___	AV___	MIN <u>X</u> *
Condition of Additional Installed Equipment	VG___	AV___	MIN___
Condition of Stored Equipment	VG___	AV___	MIN___

Value from BEL Valuation Grid	\$5,134
Value from Additional Equipment List	\$ 0
Value from Stored Equipment List	\$ 0
Total Value for Wellsite	\$5,134
Specified Year's Adjustment Factor	<u>x 0.91</u>
Specified Year's Level of Value	<u>\$4,672</u>

*(Due to stripper well status, minimum condition used)

EXAMPLE WELL EQUIPMENT APPRAISAL #5

You are valuing oil and gas equipment associated with a producing oil well in the Denver-Julesburg (D-J) Basin. The well, which has a depth of 5,500 feet, was completed in 1989 and produces oil, some associated gas, and water. Daily flow rates declared for the well are: oil-3.7 Bbls per day, water-131.3 Bbls per day, gas-50 Mcf per day.

The operator has filed a DS 658 declaration listing the following equipment in average condition:

Wellhead	Two 300-Bbl. Oil Storage Tanks
Model 160 Lufkin Pumping Unit	Control Panel
20 H.P. Electric Motor	1500' Flowline
1,870' of 3/4" Sucker Rod	3,630' of 5/8" Sucker Rod
Rod Pump	

The appraiser noted that the two oil storage tanks are no longer used because the emulsion is flowing to a common tank battery. All equipment was manufactured in 1988. You have physically inspected the well site and found the equipment to be in average condition as described in ***STEP #7 – Condition of Equipment*** earlier in the chapter.

Using the BELs listed for the D-J Basin, you find that the equipment declared generally conforms with the BEL titled Total Value Pumping Oil Well without Tanks (Electric Motor). The equipment is also similar to other equipment located within the field and is typical of producing oil wells. Based on the oil production of 3.7 Bbls per day, the subject well qualifies as a stripper well. Based on the stripper well classification, the Minimum Condition grid should be used.

The total volume of fluid is greater than 100 Bbls per day, but less than 200 Bbls per day. Using the grid intersection of 5,500 feet and 200 Bbls per day, the base equipment value of \$5,273 is noted.

The two 300-Bbl. oil storage tanks are not on the equipment list for the BEL, but are noted in the Stored Equipment List. The operator has indicated the tanks are for future use and are not being held for resale. The value for the storage tanks in average condition is \$2,590 each, or \$5,180 total.

Adding the base equipment value of \$5,273 to the stored equipment value of \$5,180 results in a total value of \$10,453. The total value of \$10,453 is multiplied by the specified year adjustment factor of 0.91 indicating an actual value of **\$9,512** for all well equipment.

The appraiser next needs to determine the value of the common tank battery. Upon physical inspection the appraiser noted that the common tank battery serviced 15 wells, of which 8 wells are categorized as stripper wells. The tank battery was constructed last year with used equipment that appears to be in average condition. The appraiser noted the following equipment for the common tank battery:

Three 300 Bbl. Oil Storage Tanks
One 300 Bbl. Water Storage Tank
Recycle Pump
Horizontal Heater/Treater

Because the water storage tank and recycle pump are not considered typical equipment needed to operate the well, their contributory value is ignored. Since more than 50% of the wells serviced by the tank battery are stripper wells, the Minimum Condition grid should be used for valuing the common tank battery. Locating the intersection, on the tank battery grid, of three tanks and one heater treater the total value is \$6,200. The total value of \$6,200 is then multiplied by the specified year's adjustment factor of 0.91, indicating an actual total value of **\$5,642** for the common tank battery.

Oil and Gas Equipment Valuation Worksheet
State of Colorado
Example #5

WELD OIL CO.ID# 45-61975

Name of Taxpayer

205 MAIN ST.Production Year 2005 Page 1 of 2

Address of Taxpayer

SW 1/4 13-16-69D-J #5

Location of Property

<u>Method Of Production</u>	<u>Average Daily Flow Rate</u>	<u>Well Depth</u>
Flowing___Pumping <u>X</u>	Oil(Bbbls) <u>3.7</u> Gas(Mcf) <u>50</u> Water(Bbbls) <u>131.3</u>	<u>5,500 Ft.</u>

<u>Type of Equipment</u>	<u>Make</u>	<u>Model</u>	<u>Size</u>	<u>Year</u>
WELLHEAD				1989
PUMPING UNIT	LUFKIN	160		1989
ELECTRIC MOTOR			20 HP	1989
3/4" SUCKER ROD			1,870'	1989
5/8" SUCKER ROD			3,630'	1989
ROD PUMP				1989
OIL STORAGE TANKS (2)			300 Bbbls	1989
CONTROL PANEL				1989
FLOWLINE			1,500'	1989

Basic Equipment List (Title) PUMPING OIL WELL W/O TANKS (ELECTRIC MOTOR)

Condition of Basic Equipment	VG___	AV___	MIN <u>X</u> *
Condition of Additional Installed Equipment	VG___	AV___	MIN___
Condition of Stored Equipment	VG___	AV <u>X</u>	MIN___

Value from BEL Valuation Grid	\$ 5,273
Value from Additional Equipment List	\$ 0
Value from Stored Equipment List	\$ 5,180
Total Value for Wellsite	\$10,453
Specified Year's Adjustment Factor	x 0.91
Specified Year's Level of Value	\$ 9,512

*(Due to stripper well status, minimum condition used.)

Oil and Gas Equipment Valuation Worksheet
State of Colorado
Example #5 (Cont'd.)

WELD OIL CO.ID# 45-00103

Name of Taxpayer

Production Year 2005 Page 2 of 2205 MAIN ST.

Address of Taxpayer

Tr in NW 1/4 14-16-69WELD OIL BATTERY #1

Location of Property

Lease Name

Method Of Production	Average Daily Flow Rate	Well Depth
Flowing___Pumping <u>X</u>	Oil(Bbbs)___ Gas(Mcf)___ Water(Bbbs)___	___ Ft.

Type of Equipment	Make	Model	Size	Year
OIL STORAGE TANKS (3)			300 Bbbs	1989
WATER STORAGE TANKS			300 Bbbs	1989
RECYCLE PUMP				1989
HEATER/TREATER (Horizontal)				1989

Basic Equipment List (Title) COMMON TANK BATTERY

Condition of Basic Equipment	VG___	AV___	MIN <u>X</u> *
Condition of Additional Installed Equipment	VG___	AV___	MIN___
Condition of Stored Equipment	VG___	AV <u>X</u>	MIN___

Value from BEL Valuation Grid	\$6,200
Value from Additional Equipment List	\$ 0
Value from Stored Equipment List	\$ 0
Total Value for Wellsite	\$6,200
Specified Year's Adjustment Factor	x 0.91
Specified Year's Level of Value	<u>\$5,642</u>

*(Because over 50% of wells are stripper, minimum condition grid used)

ADDENDUM 6-A, COUNTY/BASIN CROSS REFERENCE

County	Basin	County	Basin
Adams	Denver (D-J)	Kit Carson	Denver (D-J)
Alamosa*	San Juan	La Plata	San Juan
Arapahoe	Denver (D-J)	Lake*	Piceance
Archuleta	San Juan	Larimer	Denver (D-J)
Baca	Anadarko	Las Animas	Las Vegas-Raton
Bent	Las Animas Arch	Lincoln	Denver (D-J)
Boulder	Denver (D-J)	Logan	Denver (D-J)
Broomfield	Denver (D-J)	Mesa	Piceance
Chaffee*	Piceance	Mineral*	San Juan
Cheyenne	Las Animas Arch	Moffat	Green River
Clear Creek*	Denver (D-J)	Montezuma	Paradox
Conejos*	San Juan	Montrose	Paradox
Costilla*	San Juan	Morgan	Denver (D-J)
Crowley	Denver (D-J)	Otero	Las Animas Arch
Custer	Las Vegas-Raton	Ouray*	San Juan
Delta	Piceance	Park*	Denver (D-J)
Denver	Denver (D-J)	Phillips	Denver (D-J)
Dolores	Paradox	Pitkin*	Piceance
Douglas	Denver (D-J)	Prowers	Las Animas Arch
Eagle*	Piceance	Pueblo	Denver (D-J)
El Paso	Denver (D-J)	Rio Blanco	Piceance
Elbert	Denver (D-J)	Rio Grande*	San Juan
Fremont	Denver (D-J)	Routt	Green River
Garfield	Piceance	Saguache*	San Juan
Gilpin	Denver (D-J)	San Juan*	San Juan
Grand*	Piceance	San Miguel	Paradox
Gunnison	Piceance	Sedgwick	Denver (D-J)
Hinsdale*	San Juan	Summit*	Piceance
Huerfano	Las Vegas-Raton	Teller	Denver (D-J)
Jackson*	Piceance	Washington	Denver (D-J)
Jefferson	Denver (D-J)	Weld	Denver (D-J)
Kiowa	Las Animas Arch	Yuma	Denver (D-J)

Note: Counties in six basins where little or no oil and gas activity exists at this writing have been placed in appropriate adjoining basins. These counties are noted with an asterisk (*)

Name of Taxpayer _____ ID# _____ Schedule _____

Address of Taxpayer

Production Year _____ Page ____ of ____

Method Of Production	Average Daily Flow Rate			Well Depth
Flowing____Pumping____	Oil(Bbbls)_____	Gas(Mcf)_____	Water(Bbbls)_____	_____Ft.

[illegible]

Condition of Basic Equipment	VG____	AV____	MIN____
Condition of Additional Installed Equipment	VG____	AV____	MIN____
Condition of Stored Equipment	VG	AV	MIN

Value from Stored Equipment List \$ _____

Specified Year's Adjustment Factor x _____

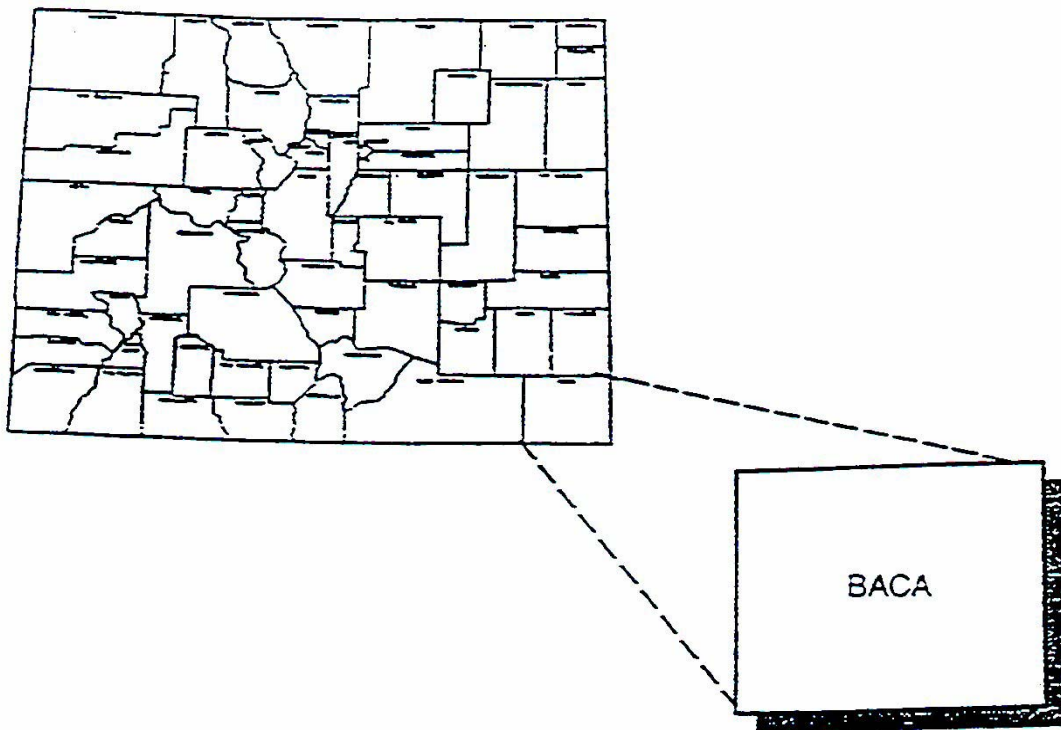
Specified Year's Level of Value \$ _____

ANADARKO BASIN

The Anadarko Basin is primarily a gas basin located in the southeast corner of the state. It includes the following county:

Baca

Anadarko Basin



ANADARKO BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well with Tanks (Electric Motor)

The basic equipment for a pumping oil well with oil and water storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	300 Barrel Oil Storage Tanks with Stairway
Wellhead	Flow lines - 600'
Heater Treater	210 Barrel Water Storage Tank
Recycle Pump	

Very Good

Barrels

900		110073	112587	114416	118353							
800		110073	112587	114416	116246	120015						
700	80330	87236	95371	114416	116246	120015						
600	80330	87236	88512	96882	116246	116405	121678					
500	72880	81606	88512	89788	98394	116405	118068	123340				
400	68830	73832	82882	89788	91064	99905	103078	119730	125003	126665		
300	65385	69520	74784	75736	84426	85590	94975	96374	121393	123055	128328	
200	58345	66250	70700	71610	72520	73430	74340	87918	89082	99173	100573	
100	58345	59210	60075	60940	68845	69710	70575	71440	76706	84416	94943	
20	54545	55410	56275	57140	58005	58870	59735	60600	61465	62330	63195	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

Average

Barrels

900		53527	54733	55598	59386							
800		53527	54733	55598	56463	60193						
700	42030	46882	49378	55598	56463	60193						
600	42030	46882	47524	50118	56463	56743	60999					
500	36930	42672	47524	48166	50858	56743	57549	61805				
400	36100	37380	43314	48166	48808	51598	53069	58355	62611	63418		
300	35053	36445	38194	38696	44058	44640	50579	51265	59161	59968	64224	
200	30943	35485	37165	37638	38112	38585	39059	45804	46386	52638	53324	
100	30943	31375	31808	32240	36783	37215	37648	38080	40376	42828	49114	
20	29123	29555	29988	30420	30853	31285	31718	32150	32583	33015	33448	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

Minimum

Barrels

900		16030	16332	16541	17508							
800		16030	16332	16541	16750	17705						
700	13252	14460	15008	16541	16750	17705						
600	13252	14460	14629	15188	16750	16845	17903					
500	11995	13420	14629	14797	15367	16845	17043	18100				
400	11785	12120	13589	14797	14966	15547	15923	17240	18298	18495		
300	11501	11858	12336	12474	13802	13957	15315	15485	17438	17635	18273	
200	10471	11618	12053	12180	12308	12435	12563	14266	14421	15824	15993	
100	10471	10588	10704	10820	11966	12083	12199	12315	12954	13536	14953	
20	10011	10128	10244	10360	10476	10593	10709	10825	10941	11058	11174	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

ANADARKO BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well without Tanks (Electric Motor)

The basic equipment for a pumping oil well without oil and water storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	Flow lines - 1000'
Wellhead	

Very Good

Barrels

900		73933	76447	78276	82213							
800		73933	76447	78276	80106	83875						
700	44190	51096	59231	78276	80106	83875						
600	44190	51096	52372	60742	80106	80265	85538					
500	36740	45466	52372	53648	62254	80265	81928	87200				
400	32690	37692	46742	53648	54924	63765	66938	83590	88863	90525		
300	29245	33380	38644	39596	48286	49450	58835	60234	85253	86915	92188	
200	22205	30110	34560	35470	36380	37290	38200	51778	52942	63033	64433	
100	22205	23070	23935	24800	32705	33570	34435	35300	40566	48276	58803	
20	18405	19270	20135	21000	21865	22730	23595	24460	25325	26190	27055	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

Average

Barrels

900		34327	35533	36398	40186							
800		34327	35533	36398	37263	40993						
700	22830	27682	30178	36398	37263	40993						
600	22830	27682	28324	30918	37263	37543	41799					
500	17730	23472	28324	28966	31658	37543	38349	42605				
400	16900	18180	24114	28966	29608	32398	33869	39155	43411	44218		
300	15853	17245	18994	19496	24858	25440	31379	32065	39961	40768	45024	
200	11743	16285	17965	18438	18912	19385	19859	26604	27186	33438	34124	
100	11743	12175	12608	13040	17583	18015	18448	18880	21176	23628	29914	
20	9923	10355	10788	11220	11653	12085	12518	12950	13383	13815	14248	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

Minimum

Barrels

900		8740	9042	9251	10218							
800		8740	9042	9251	9460	10415						
700	5962	7170	7718	9251	9460	10415						
600	5962	7170	7339	7898	9460	9555	10613					
500	4705	6130	7339	7507	8077	9555	9753	10810				
400	4495	4830	6299	7507	7676	8257	8633	9950	11008	11205		
300	4211	4568	5046	5184	6512	6667	8025	8195	10148	10345	10983	
200	3181	4328	4763	4890	5018	5145	5273	6976	7131	8534	8703	
100	3181	3298	3414	3530	4676	4793	4909	5025	5664	6246	7663	
20	2721	2838	2954	3070	3186	3303	3419	3535	3651	3768	3884	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

ANADARKO BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well with Tank (Electric Motor)

The basic equipment for a pumping gas well with water storage tank includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	210 Barrel Water Storage Tank with Stairway
Wellhead	Flow lines - 600'

Very Good

Barrels

900		81193	83707	85536	89473							
800		81193	83707	85536	87366	91135						
700	51450	58356	66491	85536	87366	91135						
600	51450	58356	59632	68002	87366	87525	92798					
500	44000	52726	59632	60908	69514	87525	89188	94460				
400	39950	44952	54002	60908	62184	71025	74198	90850	96123	97785		
300	36505	40640	45904	46856	55546	56710	66095	67494	92513	94175	99448	
200	29465	37370	41820	42730	43640	44550	45460	59038	60202	70293	71693	
100	29465	30330	31195	32060	39965	40830	41695	42560	47826	55536	66063	
20	25665	26530	27395	28260	29125	29990	30855	31720	32585	33450	34315	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

Average

Barrels

900		37887	39093	39958	43746							
800		37887	39093	39958	40823	44553						
700	26390	31242	33738	39958	40823	44553						
600	26390	31242	31884	34478	40823	41103	45359					
500	21290	27032	31884	32526	35218	41103	41909	46165				
400	20460	21740	27674	32526	33168	35958	37429	42715	46971	47778		
300	19413	20805	22554	23056	28418	29000	34939	35625	43521	44328	48584	
200	15303	19845	21525	21998	22472	22945	23419	30164	30746	36998	37684	
100	15303	15735	16168	16600	21143	21575	22008	22440	24736	27188	33474	
20	13483	13915	14348	14780	15213	15645	16078	16510	16943	17375	17808	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

Minimum

Barrels

900		10920	11222	11431	12398							
800		10920	11222	11431	11640	12595						
700	8142	9350	9898	11431	11640	12595						
600	8142	9350	9519	10078	11640	11735	12793					
500	6885	8310	9519	9687	10257	11735	11933	12990				
400	6675	7010	8479	9687	9856	10437	10813	12130	13188	13385		
300	6391	6748	7226	7364	8692	8847	10205	10375	12328	12525	13163	
200	5361	6508	6943	7070	7198	7325	7453	9156	9311	10714	10883	
100	5361	5478	5594	5710	6856	6973	7089	7205	7844	8426	9843	
20	4901	5018	5134	5250	5366	5483	5599	5715	5831	5948	6064	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

ANADARKO BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Gas Well with Tank**

The basic equipment for a flowing gas well with water storage tank includes:

Wellhead
 210 Barrel Water Storage Tank
 Flow lines - 600'

**Very Good
MCF**

	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
850	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
750	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
650	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
550	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
450	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
350	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
250	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
150	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
60	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390	7390
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

**Average
MCF**

	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
850	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290
750	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290
650	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290
550	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290
450	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290
350	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290
250	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290
150	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290
60	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290	4290
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

**Minimum
MCF**

	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
850	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
750	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
650	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
550	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
450	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
350	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
250	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
150	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
60	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730	1730
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

ANADARKO BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Gas Well without Tank**

The basic equipment for a flowing gas well without water storage tank includes:

Wellhead
Flow lines - 1000'

**Very Good
MCF**

850	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
750	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
650	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
550	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
450	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
350	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
250	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
150	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
60	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

**Average
MCF**

850	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
750	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
650	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
550	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
450	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
350	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
250	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
150	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
60	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

**Minimum
MCF**

850	750	750	750	750	750	750	750	750	750	750	750
750	750	750	750	750	750	750	750	750	750	750	750
650	750	750	750	750	750	750	750	750	750	750	750
550	750	750	750	750	750	750	750	750	750	750	750
450	750	750	750	750	750	750	750	750	750	750	750
350	750	750	750	750	750	750	750	750	750	750	750
250	750	750	750	750	750	750	750	750	750	750	750
150	750	750	750	750	750	750	750	750	750	750	750
60	750	750	750	750	750	750	750	750	750	750	750
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

ANADARKO BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Gas Well with Tank and Heater Treater**

The basic equipment for a flowing gas well with water storage tank and heater treater includes:

Wellhead
Flow lines - 600'
210 Barrel Water Storage Tank
Heater Treater

Very Good**MCF**

850	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830
750	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830
650	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830
550	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830
450	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830
350	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830
250	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830
150	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830
60	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830	21830
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

Average**MCF**

850	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690
750	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690
650	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690
550	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690
450	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690
350	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690
250	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690
150	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690
60	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690	12690
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

Minimum**MCF**

850	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830
750	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830
650	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830
550	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830
450	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830
350	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830
250	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830
150	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830
60	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830	3830
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

ANADARKO BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Gas Well with Tank and Separator**

The basic equipment for a flowing gas well with water storage tank and separator includes:

Wellhead
Flow lines - 600'
210 Barrel Water Storage Tank
Separator

Very Good**MCF**

850	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200
750	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200
650	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200
550	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200
450	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200
350	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200
250	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200
150	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200
60	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200	12200
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

Average**MCF**

850	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620
750	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620
650	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620
550	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620
450	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620
350	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620
250	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620
150	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620
60	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620	6620
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

Minimum**MCF**

850	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310
750	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310
650	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310
550	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310
450	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310
350	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310
250	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310
150	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310
60	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310	2310
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
	Depth										

ANADARKO BASIN BASIC EQUIPMENT LISTS**Common Tank Battery**

The basic equipment for a common tank battery includes:

300 Barrel Oil Storage Tanks with Stairway & 110 Barrel Water Storage Tank

Heater Treaters

Recycle Pump

Separators

Manifolds and Headers

Very Good

Tanks

10	62480	79400	84210	93840	98650	103460	117900	122710
9	56590	73510	78320	87950	92760	97570	112010	116820
8	50700	67620	72430	82060	86870	91680	106120	110930
7	44810	61730	66540	76170	80980	85790	100230	105040
6	38920	55840	60650	70280	75090	79900	94340	99150
5	33030	49950	54760	64390	69200	74010	88450	93260
4	27140	44060	48870	58500	63310	68120	82560	87370
3	21250	38170	42980	52610	57420	62230	76670	81480
2	15360	32280	37090	46720	51530	56340	70780	75590
1	9470	26390	31200	40830	45640	50450	64890	69700

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	5890	For Each Skimming Tank	Add	6060
For Each Additional Separator	Add	4810			
For Each Additional Heater/Treater	Add	14440			

Average

Tanks

10	31620	41380	43710	49780	52110	54440	62840	65170
9	28680	38440	40770	46840	49170	51500	59900	62230
8	25740	35500	37830	43900	46230	48560	56960	59290
7	22800	32560	34890	40960	43290	45620	54020	56350
6	19860	29620	31950	38020	40350	42680	51080	53410
5	16920	26680	29010	35080	37410	39740	48140	50470
4	13980	23740	26070	32140	34470	36800	45200	47530
3	11040	20800	23130	29200	31530	33860	42260	44590
2	8100	17860	20190	26260	28590	30920	39320	41650
1	5160	14920	17250	23320	25650	27980	36380	38710

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	2940	For Each Skimming Tank	Add	3330
For Each Additional Separator	Add	2330			
For Each Additional Heater/Treater	Add	8400			

Minimum

Tanks

10	13950	16390	16970	18490	19070	19650	21750	22330
9	12600	15040	15620	17140	17720	18300	20400	20980
8	11250	13690	14270	15790	16370	16950	19050	19630
7	9900	12340	12920	14440	15020	15600	17700	18280
6	8550	10990	11570	13090	13670	14250	16350	16930
5	7200	9640	10220	11740	12320	12900	15000	15580
4	5850	8290	8870	10390	10970	11550	13650	14230
3	4500	6940	7520	9040	9620	10200	12300	12880
2	3150	5590	6170	7690	8270	8850	10950	11530
1	1800	4240	4820	6340	6920	7500	9600	10180

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separators	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	--	-----------------------	--	--	--	--

For Each Additional Tank	Add	1350	For Each Skimming Tank	Add	1200
For Each Additional Separator	Add	580			
For Each Additional Heater/Treater	Add	2100			

ANADARKO BASIN BASIC EQUIPMENT LISTS

Total Value Water Injection Well / Water Disposal Well

The basic equipment for a water injection well includes:

Wellhead

Injection lines - 1000'

Very Good

Barrels

900	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
800	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
700	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
600	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
500	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
400	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
300	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
200	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
100	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
20	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
											Depth

Average

Barrels

900	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
800	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
700	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
600	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
500	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
400	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
300	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
200	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
100	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
20	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
											Depth

Minimum

Barrels

900	750	750	750	750	750	750	750	750	750	750	750
800	750	750	750	750	750	750	750	750	750	750	750
700	750	750	750	750	750	750	750	750	750	750	750
600	750	750	750	750	750	750	750	750	750	750	750
500	750	750	750	750	750	750	750	750	750	750	750
400	750	750	750	750	750	750	750	750	750	750	750
300	750	750	750	750	750	750	750	750	750	750	750
200	750	750	750	750	750	750	750	750	750	750	750
100	750	750	750	750	750	750	750	750	750	750	750
20	750	750	750	750	750	750	750	750	750	750	750
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
											Depth

ANADARKO BASIN BASIC EQUIPMENT LISTS**Total Value ESP Water Supply Well**

The basic equipment for an electric submersible pump water supply well includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flow lines - 1000'

Very Good**Barrels**

4100	60695	61510	62325	63140	63955	64770	65585	66400	67215
3800	55965	56780	57595	58410	59225	60040	60855	61670	62485
3400	52040	52790	53540	54290	55040	55790	56540	57290	58040
2800	50960	51710	52460	53210	53960	54710	55460	56210	56960
2300	47185	47935	48685	49435	50185	50935	51685	52435	53185
1900	46280	47030	47780	48530	49280	50030	50780	51530	52280
1600	43490	44240	44990	45740	46490	47240	47990	48740	49490
1100	38640	39390	40140	40890	41640	42390	43140	43890	44640
800	34570	38320	39070	39820	40570	41320	42070	42820	43570
600	32410	36160	36910	37660	38410	39160	39910	40660	41410
350	31970	35720	36470	37220	37970	38720	39470	40220	40970
	1000	3500	4000	4500	5000	5500	6000	6500	7000
								7500	Depth

Average**Barrels**

4100	40330	40900	41470	42040	42610	43180	43750	44320	44890
3800	35700	36270	36840	37410	37980	38550	39120	39690	40260
3400	32955	33480	34005	34530	35055	35580	36105	36630	37155
2800	32955	33480	34005	34530	35055	35580	36105	36630	37155
2300	29765	30290	30815	31340	31865	32390	32915	33440	33965
1900	27655	28180	28705	29230	29755	30280	30805	31330	31855
1600	25745	26270	26795	27320	27845	28370	28895	29420	29945
1100	22285	22810	23335	23860	24385	24910	25435	25960	26485
800	19660	22285	22810	23335	23860	24385	24910	25435	25960
600	18670	21295	21820	22345	22870	23395	23920	24445	24970
350	18150	20775	21300	21825	22350	22875	23400	23925	24450
	1000	3500	4000	4500	5000	5500	6000	6500	7000
								7500	Depth

Minimum**Barrels**

4100	9485	9630	9775	9920	10065	10210	10355	10500	10645
3800	8965	9110	9255	9400	9545	9690	9835	9980	10125
3400	8250	8380	8510	8640	8770	8900	9030	9160	9290
2800	8040	8170	8300	8430	8560	8690	8820	8950	9080
2300	7450	7580	7710	7840	7970	8100	8230	8360	8490
1900	6930	7060	7190	7320	7450	7580	7710	7840	7970
1600	6460	6590	6720	6850	6980	7110	7240	7370	7500
1100	5580	5710	5840	5970	6100	6230	6360	6490	6620
800	4820	5470	5600	5730	5860	5990	6120	6250	6380
600	4690	5340	5470	5600	5730	5860	5990	6120	6250
350	4550	5200	5330	5460	5590	5720	5850	5980	6110
	1000	3500	4000	4500	5000	5500	6000	6500	7000
								7500	Depth

ANADARKO BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Water Supply Well (Gas Engine)

The basic equipment for a pumping water supply well includes:

Pumping Unit
Wellhead
Gas Engine

Sucker Rods To Depth
Rod Pump
Flow lines - 1000'

**Very Good
Barrels**

900		82993	85507	86466	90403							
800		82993	85507	86466	88296	92065						
700	50480	57386	65521	86466	88296	92065						
600	49300	56206	57482	67032	88296	86805	93728					
500	41850	50576	57482	58308	68544	86805	88468	95390				
400	36990	41992	51042	58308	59584	70055	73228	90130	95403	97065		
300	32825	36960	42224	43176	51866	53030	63135	64534	91543	93205	98478	
200	25755	33660	38110	39020	39930	39800	40710	55358	56522	67333	68733	
100	23785	24650	25515	26380	35215	36080	36945	37810	43076	51826	62353	
20	19985	20850	21715	22580	23445	24310	25175	26040	26905	27770	28635	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

**Average
Barrels**

900		41117	42323	42578	46366							
800		41117	42323	42578	43443	47173						
700	28380	33232	35728	42578	43443	47173						
600	27440	32292	32934	36468	43443	43613	47979					
500	22340	28082	32934	32996	37208	43613	44419	48785				
400	20610	21890	27824	32996	33638	37948	39419	45225	49481	50288		
300	19063	20455	22204	22706	28068	28650	35089	35775	45511	46318	50574	
200	14833	19375	21055	21528	22002	21385	21859	29814	30396	37148	37834	
100	13623	14055	14488	14920	19583	20015	20448	20880	23176	26718	33004	
20	11803	12235	12668	13100	13533	13965	14398	14830	15263	15695	16128	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

**Minimum
Barrels**

900		10430	10732	10791	11758							
800		10430	10732	10791	11000	11955						
700	7342	8550	9098	10791	11000	11955						
600	7112	8320	8489	9278	11000	11065	12153					
500	5855	7280	8489	8507	9457	11065	11263	12350				
400	5415	5750	7219	8507	8676	9637	10013	11460	12518	12715		
300	5011	5368	5846	5984	7312	7467	8945	9115	11528	11725	12363	
200	3951	5098	5533	5660	5788	5645	5773	7776	7931	9454	9623	
100	3651	3768	3884	4000	5176	5293	5409	5525	6164	6916	8433	
20	3191	3308	3424	3540	3656	3773	3889	4005	4121	4238	4354	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

ANADARKO BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Water Supply Well (Electric Motor)

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods To Depth
Wellhead	Rod Pump
Electric Motor	Flow lines - 1000'
Control Panel	

Very Good

Barrels

900		73933	76447	78276	82213							
800		73933	76447	78276	80106	83875						
700	44190	51096	59231	78276	80106	83875						
600	44190	51096	52372	60742	80106	80265	85538					
500	36740	45466	52372	53648	62254	80265	81928	87200				
400	32690	37692	46742	53648	54924	63765	66938	83590	88863	90525		
300	29245	33380	38644	39596	48286	49450	58835	60234	85253	86915	92188	
200	22205	30110	34560	35470	36380	37290	38200	51778	52942	63033	64433	
100	22205	23070	23935	24800	32705	33570	34435	35300	40566	48276	58803	
20	18405	19270	20135	21000	21865	22730	23595	24460	25325	26190	27055	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

Average

Barrels

900		34327	35533	36398	40186							
800		34327	35533	36398	37263	40993						
700	22830	27682	30178	36398	37263	40993						
600	22830	27682	28324	30918	37263	37543	41799					
500	17730	23472	28324	28966	31658	37543	38349	42605				
400	16900	18180	24114	28966	29608	32398	33869	39155	43411	44218		
300	15853	17245	18994	19496	24858	25440	31379	32065	39961	40768	45024	
200	11743	16285	17965	18438	18912	19385	19859	26604	27186	33438	34124	
100	11743	12175	12608	13040	17583	18015	18448	18880	21176	23628	29914	
20	9923	10355	10788	11220	11653	12085	12518	12950	13383	13815	14248	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

Minimum

Barrels

900		8740	9042	9251	10218							
800		8740	9042	9251	9460	10415						
700	5962	7170	7718	9251	9460	10415						
600	5962	7170	7339	7898	9460	9555	10613					
500	4705	6130	7339	7507	8077	9555	9753	10810				
400	4495	4830	6299	7507	7676	8257	8633	9950	11008	11205		
300	4211	4568	5046	5184	6512	6667	8025	8195	10148	10345	10983	
200	3181	4328	4763	4890	5018	5145	5273	6976	7131	8534	8703	
100	3181	3298	3414	3530	4676	4793	4909	5025	5664	6246	7663	
20	2721	2838	2954	3070	3186	3303	3419	3535	3651	3768	3884	
	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	Depth

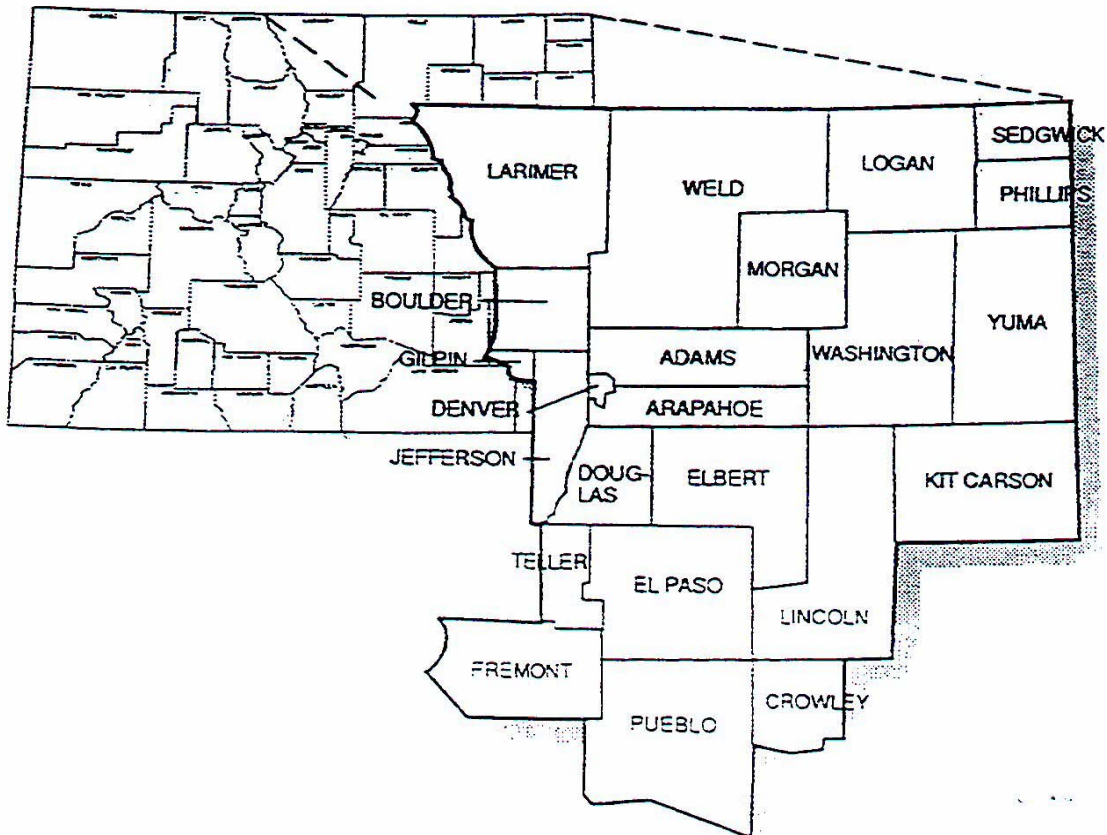
This page left blank intentionally.

DENVER-JULESBURG (D-J) BASIN

The Denver-Julesburg Basin (D-J) is located in the northeast corner of the state. It includes the following counties:

Adams	Larimer
Arapahoe	Lincoln
Boulder	Logan
Broomfield	Morgan
Crowley	Phillips
Douglas	Pueblo
El Paso	Sedgwick
Elbert	Teller
Fremont	Washington
Gilpin	Weld
Jefferson	Yuma
Kit Carson	

D-J Basin



D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Oil Well with Tanks (Gas Engine)**

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Gas Engine	Rod Pump
Wellhead	300 Barrel Oil Storage Tanks with Stairway
Heater Treater	Flow lines - 600'

**Very Good
Barrels**

900	110467	111426	115363									
800	110467	111426	113256	117025								
700	90481	111426	113256	117025								
600	80302	89852	111116	109625	116548							
500	80302	81128	91364	109625	111288	118210						
400	73862	81128	82404	92875	96048	112950	118223	119885				
300	65044	65996	74686	75850	85955	87354	114363	116025	121298			
200	60930	61840	62750	62620	63530	78178	79342	90153	91553	92952	121013	
100	48335	49200	58035	58900	59765	60630	65896	74646	85173	86572	96256	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

**Average
Barrels**

900	55723	55978	59766									
800	55723	55978	56843	60573								
700	49128	55978	56843	60573								
600	45874	49408	56383	56553	60919							
500	45874	45936	50148	56553	57359	61725						
400	40764	45936	46578	50888	52359	58165	62421	63228				
300	35144	35646	41008	41590	48029	48715	58451	59258	63514			
200	33995	34468	34942	34325	34799	42754	43336	50088	50774	51460	61676	
100	27428	27860	32523	32955	33388	33820	36116	39658	45944	46630	53056	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

**Minimum
Barrels**

900	15312	15371	16338									
800	15312	15371	15580	16535								
700	13678	15371	15580	16535								
600	12959	13748	15470	15535	16623							
500	12959	12977	13927	15535	15733	16820						
400	11689	12977	13146	14107	14483	15930	16988	17185				
300	10316	10454	11782	11937	13415	13585	15998	16195	17253			
200	10003	10130	10258	10115	10243	12246	12401	13924	14093	14263	16788	
100	8354	8470	9646	9763	9879	9995	10634	11386	12903	13073	14605	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Oil Well with Tanks (Electric Motor)**

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	300 Barrel Oil Storage Tanks with Stairway
Wellhead	Flow lines - 600'
Heater Treater	

Very Good**Barrels**

900	101407	103236	107173									
800	101407	103236	105066	108835								
700	84191	103236	105066	108835								
600	75192	83562	102926	103085	108358							
500	75192	76468	85074	103085	104748	110020						
400	69562	76468	77744	86585	89758	106410	111683	113345				
300	61464	62416	71106	72270	81655	83054	108073	109735	115008			
200	57380	58290	59200	60110	61020	74598	75762	85853	87253	88652	114723	
100	46755	47620	55525	56390	57255	58120	63386	71096	81623	83022	91956	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Average**Barrels**

900	48933	49798	53586									
800	48933	49798	50663	54393								
700	43578	49798	50663	54393								
600	41264	43858	50203	50483	54739							
500	41264	41906	44598	50483	51289	55545						
400	37054	41906	42548	45338	46809	52095	56351	57158				
300	31934	32436	37798	38380	44319	45005	52901	53708	57964			
200	30905	31378	31852	32325	32799	39544	40126	46378	47064	47750	56126	
100	25548	25980	30523	30955	31388	31820	34116	36568	42854	43540	49346	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Minimum**Barrels**

900	13622	13831	14798									
800	13622	13831	14040	14995								
700	12298	13831	14040	14995								
600	11809	12368	13930	14025	15083							
500	11809	11977	12547	14025	14223	15280						
400	10769	11977	12146	12727	13103	14420	15478	15675				
300	9516	9654	10982	11137	12495	12665	14618	14815	15873			
200	9233	9360	9488	9615	9743	11446	11601	13004	13173	13343	15408	
100	7884	8000	9146	9263	9379	9495	10134	10716	12133	12303	13685	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Oil Well without Tanks (Gas Engine)**

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit
 Gas Engine
 Wellhead
 Sucker Rods to Depth
 Rod Pump
 Flow lines - 1000'

Very Good**Barrels**

900	85507	86466	90403									
800	85507	86466	88296	92065								
700	65521	86466	88296	92065								
600	57482	67032	88296	86805	93728							
500	57482	58308	68544	86805	88468	95390						
400	51042	58308	59584	70055	73228	90130	95403	97065				
300	42224	43176	51866	53030	63135	64534	91543	93205	98478			
200	38110	39020	39930	39800	40710	55358	56522	67333	68733	70132	98193	
100	25515	26380	35215	36080	36945	37810	43076	51826	62353	63752	73436	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average**Barrels**

900	42323	42578	46366									
800	42323	42578	43443	47173								
700	35728	42578	43443	47173								
600	32934	36468	43443	43613	47979							
500	32934	32996	37208	43613	44419	48785						
400	27824	32996	33638	37948	39419	45225	49481	50288				
300	22204	22706	28068	28650	35089	35775	45511	46318	50574			
200	21055	21528	22002	21385	21859	29814	30396	37148	37834	38520	48736	
100	14488	14920	19583	20015	20448	20880	23176	26718	33004	33690	40116	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum**Barrels**

900	10732	10791	11758									
800	10732	10791	11000	11955								
700	9098	10791	11000	11955								
600	8489	9278	11000	11065	12153							
500	8489	8507	9457	11065	11263	12350						
400	7219	8507	8676	9637	10013	11460	12518	12715				
300	5846	5984	7312	7467	8945	9115	11528	11725	12783			
200	5533	5660	5788	5645	5773	7776	7931	9454	9623	9793	12318	
100	3884	4000	5176	5293	5409	5525	6164	6916	8433	8603	10135	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Oil Well without Tanks (Electric Motor)**

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	Flow lines - 1000'
Wellhead	

Very Good**Barrels**

900	76447	78276	82213									
800	76447	78276	80106	83875								
700	59231	78276	80106	83875								
600	52372	60742	80106	80265	85538							
500	52372	53648	62254	80265	81928	87200						
400	46742	53648	54924	63765	66938	83590	88863	90525				
300	38644	39596	48286	49450	58835	60234	85253	86915	92188			
200	34560	35470	36380	37290	38200	51778	52942	63033	64433	65832	91903	
100	23935	24800	32705	33570	34435	35300	40566	48276	58803	60202	69136	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average**Barrels**

900	35533	36398	40186									
800	35533	36398	37263	40993								
700	30178	36398	37263	40993								
600	28324	30918	37263	37543	41799							
500	28324	28966	31658	37543	38349	42605						
400	24114	28966	29608	32398	33869	39155	43411	44218				
300	18994	19496	24858	25440	31379	32065	39961	40768	45024			
200	17965	18438	18912	19385	19859	26604	27186	33438	34124	34810	43186	
100	12608	13040	17583	18015	18448	18880	21176	23628	29914	30600	36406	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum**Barrels**

900	9042	9251	10218									
800	9042	9251	9460	10415								
700	7718	9251	9460	10415								
600	7339	7898	9460	9555	10613							
500	7339	7507	8077	9555	9753	10810						
400	6299	7507	7676	8257	8633	9950	11008	11205				
300	5046	5184	6512	6667	8025	8195	10148	10345	11403			
200	4763	4890	5018	5145	5273	6976	7131	8534	8703	8873	10938	
100	3414	3530	4676	4793	4909	5025	5664	6246	7663	7833	9215	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Oil Well with Tanks**

The basic equipment for a flowing oil well with oil storage tanks includes:

Wellhead
 Heater Treater
 300 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

Very Good**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	29350	29350	29350	29350	29350	29350	29350	29350	29350	29350	29350
800	29350	29350	29350	29350	29350	29350	29350	29350	29350	29350	29350
700	29350	29350	29350	29350	29350	29350	29350	29350	29350	29350	29350
600	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210
500	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210
400	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210
300	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210
200	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210
100	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210	27210
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	16350	16350	16350	16350	16350	16350	16350	16350	16350	16350	16350
800	16350	16350	16350	16350	16350	16350	16350	16350	16350	16350	16350
700	16350	16350	16350	16350	16350	16350	16350	16350	16350	16350	16350
600	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890
500	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890
400	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890
300	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890
200	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890
100	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890	15890
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330
800	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330
700	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330	5330
600	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220
500	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220
400	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220
300	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220
200	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220
100	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220	5220
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Oil Well without Tanks**

The basic equipment for a flowing oil well without oil storage tanks includes:

Wellhead
Flow lines - 1000'

Very Good**Barrels**

900	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
800	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
700	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
600	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
500	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
400	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
300	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
200	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
100	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Average****Barrels**

900	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
800	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
700	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
600	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
500	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
400	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
300	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
200	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
100	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Minimum****Barrels**

900	750	750	750	750	750	750	750	750	750	750	750
800	750	750	750	750	750	750	750	750	750	750	750
700	750	750	750	750	750	750	750	750	750	750	750
600	750	750	750	750	750	750	750	750	750	750	750
500	750	750	750	750	750	750	750	750	750	750	750
400	750	750	750	750	750	750	750	750	750	750	750
300	750	750	750	750	750	750	750	750	750	750	750
200	750	750	750	750	750	750	750	750	750	750	750
100	750	750	750	750	750	750	750	750	750	750	750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Gas Well with Tank (Gas Engine)**

The basic equipment for a pumping gas well with oil storage tank includes:

Pumping Unit	Rod Pump
Gas Engine	Production Unit
Wellhead	300 Barrel Oil Storage Tank with Stairway
Sucker Rods to Depth	Flow lines - 600'

Very Good

Barrels

900	100787	101746	105683									
800	100787	101746	103576	107345								
700	80801	101746	103576	107345								
600	72762	82312	103576	102085	109008							
500	72762	73588	83824	102085	103748	110670						
400	66322	73588	74864	85335	88508	105410	110683	112345				
300	57504	58456	67146	68310	78415	79814	106823	108485	113758			
200	53390	54300	55210	55080	55990	70638	71802	82613	84013	85412	113473	
100	40795	41660	50495	51360	52225	53090	58356	67106	77633	79032	88716	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	50143	50398	54186									
800	50143	50398	51263	54993								
700	43548	50398	51263	54993								
600	40754	44288	51263	51433	55799							
500	40754	40816	45028	51433	52239	56605						
400	35644	40816	41458	45768	47239	53045	57301	58108				
300	30024	30526	35888	36470	42909	43595	53331	54138	58394			
200	28875	29348	29822	29205	29679	37634	38216	44968	45654	46340	56556	
100	22308	22740	27403	27835	28268	28700	30996	34538	40824	41510	47936	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	13292	13351	14318									
800	13292	13351	13560	14515								
700	11658	13351	13560	14515								
600	11049	11838	13560	13625	14713							
500	11049	11067	12017	13625	13823	14910						
400	9779	11067	11236	12197	12573	14020	15078	15275				
300	8406	8544	9872	10027	11505	11675	14088	14285	15343			
200	8093	8220	8348	8205	8333	10336	10491	12014	12183	12353	14878	
100	6444	6560	7736	7853	7969	8085	8724	9476	10993	11163	12695	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Gas Well with Tank (Electric Motor)**

The basic equipment for a pumping gas well with oil storage tank includes:

Pumping Unit	Rod Pump
Electric Motor	Production Unit
Wellhead	300 Barrel Oil Storage Tank with Stairway
Sucker Rods to Depth	Flow lines - 600'
Control Panel	

Very Good**Barrels**

900	91727	93556	97493									
800	91727	93556	95386	99155								
700	74511	93556	95386	99155								
600	67652	76022	95386	95545	100818							
500	67652	68928	77534	95545	97208	102480						
400	62022	68928	70204	79045	82218	98870	104143	105805				
300	53924	54876	63566	64730	74115	75514	100533	102195	107468			
200	49840	50750	51660	52570	53480	67058	68222	78313	79713	81112	107183	
100	39215	40080	47985	48850	49715	50580	55846	63556	74083	75482	84416	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average**Barrels**

900	43353	44218	48006									
800	43353	44218	45083	48813								
700	37998	44218	45083	48813								
600	36144	38738	45083	45363	49619							
500	36144	36786	39478	45363	46169	50425						
400	31934	36786	37428	40218	41689	46975	51231	52038				
300	26814	27316	32678	33260	39199	39885	47781	48588	52844			
200	25785	26258	26732	27205	27679	34424	35006	41258	41944	42630	51006	
100	20428	20860	25403	25835	26268	26700	28996	31448	37734	38420	44226	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum**Barrels**

900	11602	11811	12778									
800	11602	11811	12020	12975								
700	10278	11811	12020	12975								
600	9899	10458	12020	12115	13173							
500	9899	10067	10637	12115	12313	13370						
400	8859	10067	10236	10817	11193	12510	13568	13765				
300	7606	7744	9072	9227	10585	10755	12708	12905	13963			
200	7323	7450	7578	7705	7833	9536	9691	11094	11263	11433	13498	
100	5974	6090	7236	7353	7469	7585	8224	8806	10223	10393	11775	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Gas Well without Tank (Gas Engine)**

The basic equipment for a pumping gas well without oil storage tank includes:

Pumping Unit
 Gas Engine
 Wellhead
 Rod Pump
 Flow lines - 1000'
 Sucker Rods to Depth

Very Good**Barrels**

900	85507	86466	90403									
800	85507	86466	88296	92065								
700	65521	86466	88296	92065								
600	57482	67032	88296	86805	93728							
500	57482	58308	68544	86805	88468	95390						
400	51042	58308	59584	70055	73228	90130	95403	97065				
300	42224	43176	51866	53030	63135	64534	91543	93205	98478			
200	38110	39020	39930	39800	40710	55358	56522	67333	68733	70132	98193	
100	25515	26380	35215	36080	36945	37810	43076	51826	62353	63752	73436	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth**Average****Barrels**

900	42323	42578	46366									
800	42323	42578	43443	47173								
700	35728	42578	43443	47173								
600	32934	36468	43443	43613	47979							
500	32934	32996	37208	43613	44419	48785						
400	27824	32996	33638	37948	39419	45225	49481	50288				
300	22204	22706	28068	28650	35089	35775	45511	46318	50574			
200	21055	21528	22002	21385	21859	29814	30396	37148	37834	38520	48736	
100	14488	14920	19583	20015	20448	20880	23176	26718	33004	33690	40116	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth**Minimum****Barrels**

900	10732	10791	11758									
800	10732	10791	11000	11955								
700	9098	10791	11000	11955								
600	8489	9278	11000	11065	12153							
500	8489	8507	9457	11065	11263	12350						
400	7219	8507	8676	9637	10013	11460	12518	12715				
300	5846	5984	7312	7467	8945	9115	11528	11725	12783			
200	5533	5660	5788	5645	5773	7776	7931	9454	9623	9793	12318	
100	3884	4000	5176	5293	5409	5525	6164	6916	8433	8603	10135	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Gas Well without Tank (Electric Motor)**

The basic equipment for a pumping gas well without oil storage tank includes:

Pumping Unit	Rod Pump
Electric Motor	Flow lines - 1000'
Wellhead	Control Panel
Sucker Rods to Depth	

Very Good**Barrels**

900	76447	78276	82213									
800	76447	78276	80106	83875								
700	59231	78276	80106	83875								
600	52372	60742	80106	80265	85538							
500	52372	53648	62254	80265	81928	87200						
400	46742	53648	54924	63765	66938	83590	88863	90525				
300	38644	39596	48286	49450	58835	60234	85253	86915	92188			
200	34560	35470	36380	37290	38200	51778	52942	63033	64433	65832	91903	
100	23935	24800	32705	33570	34435	35300	40566	48276	58803	60202	69136	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth**Average****Barrels**

900	35533	36398	40186									
800	35533	36398	37263	40993								
700	30178	36398	37263	40993								
600	28324	30918	37263	37543	41799							
500	28324	28966	31658	37543	38349	42605						
400	24114	28966	29608	32398	33869	39155	43411	44218				
300	18994	19496	24858	25440	31379	32065	39961	40768	45024			
200	17965	18438	18912	19385	19859	26604	27186	33438	34124	34810	43186	
100	12608	13040	17583	18015	18448	18880	21176	23628	29914	30600	36406	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth**Minimum****Barrels**

900	9042	9251	10218									
800	9042	9251	9460	10415								
700	7718	9251	9460	10415								
600	7339	7898	9460	9555	10613							
500	7339	7507	8077	9555	9753	10810						
400	6299	7507	7676	8257	8633	9950	11008	11205				
300	5046	5184	6512	6667	8025	8195	10148	10345	11403			
200	4763	4890	5018	5145	5273	6976	7131	8534	8703	8873	10938	
100	3414	3530	4676	4793	4909	5025	5664	6246	7663	7833	9215	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Plunger Lift Gas Well with Tanks**

The basic equipment for a plunger lift gas well with oil storage tanks includes:

Wellhead with Lubricator
 Plunger Lift
 Production Unit
 300 Barrel Oil Storage Tanks with Stairway
 Flowlines - 600'

**Very Good
MCF**

850	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770
750	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770
650	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770
550	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770
450	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770
350	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770
250	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770
150	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770
60	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770	22770
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
MCF**

850	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530
750	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530
650	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530
550	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530
450	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530
350	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530
250	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530
150	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530
60	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530	12530
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
MCF**

850	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
650	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
550	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
450	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
350	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
250	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
150	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
60	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Plunger Lift Gas Well without Tanks**

The basic equipment for a plunger lift gas well without oil storage tanks includes:

Wellhead with Lubricator
Plunger Lift
Production Unit

Flow lines - 1000'

**Very Good
MCF**

850	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140
750	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140
650	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140
550	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140
450	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140
350	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140
250	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140
150	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140
60	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140	18140
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
MCF**

850	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470
750	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470
650	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470
550	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470
450	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470
350	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470
250	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470
150	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470
60	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470	10470
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
MCF**

850	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620
750	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620
650	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620
550	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620
450	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620
350	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620
250	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620
150	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620
60	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620	2620
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Plunger Lift Gas Well without Tanks or Production Unit**

The basic equipment for a plunger lift gas well without oil storage tanks or production unit includes:

Wellhead with Lubricator
Plunger Lift
Flow lines - 1000'

**Very Good
MCF**

850	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490
750	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490
650	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490
550	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490
450	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490
350	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490
250	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490
150	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490
60	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490	7490
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Average
MCF**

850	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710
750	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710
650	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710
550	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710
450	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710
350	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710
250	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710
150	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710
60	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710	4710
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Minimum
MCF**

850	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190
750	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190
650	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190
550	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190
450	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190
350	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190
250	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190
150	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190
60	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190	1190
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Gas Well with Tanks**

The basic equipment for a flowing gas well with oil storage tanks includes:

Wellhead
 Production Unit
 300 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

Very Good**MCF**

850	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670
750	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670
650	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670
550	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670
450	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670
350	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670
250	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670
150	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670
60	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670	19670
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Average**MCF**

850	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770
750	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770
650	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770
550	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770
450	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770
350	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770
250	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770
150	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770
60	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770	10770
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Minimum**MCF**

850	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310
750	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310
650	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310
550	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310
450	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310
350	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310
250	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310
150	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310
60	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310	3310
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Gas Well without Tanks**

The basic equipment for a flowing gas well without oil storage tanks includes:

Wellhead
 Production Unit
 Flow lines - 1000'

Very Good**MCF**

850	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
750	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
650	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
550	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
450	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
350	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
250	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
150	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
60	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average**MCF**

850	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
750	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
650	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
550	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
450	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
350	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
250	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
150	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
60	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum**MCF**

850	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
750	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
650	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
550	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
450	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
350	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
250	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
150	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
60	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Gas Well without Tanks or Production Unit**

The basic equipment for a flowing gas well without tanks or production unit includes:

Wellhead
Flow lines - 1000'

**Very Good
MCF**

850	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
750	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
650	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
550	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
450	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
350	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
250	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
150	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
60	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Average
MCF**

850	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
750	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
650	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
550	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
450	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
350	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
250	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
150	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
60	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Minimum
MCF**

850	750	750	750	750	750	750	750	750	750	750	750
750	750	750	750	750	750	750	750	750	750	750	750
650	750	750	750	750	750	750	750	750	750	750	750
550	750	750	750	750	750	750	750	750	750	750	750
450	750	750	750	750	750	750	750	750	750	750	750
350	750	750	750	750	750	750	750	750	750	750	750
250	750	750	750	750	750	750	750	750	750	750	750
150	750	750	750	750	750	750	750	750	750	750	750
60	750	750	750	750	750	750	750	750	750	750	750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

D-J BASIN BASIC EQUIPMENT LISTS**Common Tank Battery**

The basic equipment for a common tank battery includes:

300 Barrel Oil Storage Tanks with Stairway

Heater Treaters

Recycle Pump

Separators

Manifolds and Headers

Very Good

Tanks

10	59930	74370	79180	88810	93620	98430	112870	117680
9	54040	68480	73290	82920	87730	92540	106980	111790
8	48150	60450	65260	72750	77560	86650	101090	105900
7	42260	54560	59370	66860	71670	80760	95200	100010
6	36370	48670	53480	60970	65780	70590	82890	87700
5	30480	42780	47590	55080	59890	64700	77000	81810
4	24590	36890	41700	49190	54000	58810	71110	75920
3	18700	31000	35810	43300	48110	52920	65220	70030
2	12810	25110	29920	37410	42220	47030	59330	64140
1	5890	19220	24030	31520	36330	41140	53440	58250

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	5890	For Each Skimming Tank	Add	6060
For Each Additional Separator	Add	4810			
For Each Additional Heater/Treater	Add	14440			

Average

Tanks

10	30040	38440	40770	46840	49170	51500	59900	62230
9	27100	35500	37830	43900	46230	48560	56960	59290
8	24160	32100	34430	40040	42370	45620	54020	56350
7	21220	29160	31490	37100	39430	42680	51080	53410
6	18280	26220	28550	34160	36490	38820	46760	49090
5	15340	23280	25610	31220	33550	35880	43820	46150
4	12400	20340	22670	28280	30610	32940	40880	43210
3	9460	17400	19730	25340	27670	30000	37940	40270
2	6520	14460	16790	22400	24730	27060	35000	37330
1	2940	11520	13850	19460	21790	24120	32060	34390

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	2940	For Each Skimming Tank	Add	3330
For Each Additional Separator	Add	2330			
For Each Additional Heater/Treater	Add	8400			

Minimum

Tanks

10	13660	15760	16340	17860	18440	19020	21120	21700
9	12310	14410	14990	16510	17090	17670	19770	20350
8	10960	12950	13530	14940	15520	16320	18420	19000
7	9610	11600	12180	13590	14170	14970	17070	17650
6	8260	10250	10830	12240	12820	13400	15390	15970
5	6910	8900	9480	10890	11470	12050	14040	14620
4	5560	7550	8130	9540	10120	10700	12690	13270
3	4210	6200	6780	8190	8770	9350	11340	11920
2	2860	4850	5430	6840	7420	8000	9990	10570
1	1350	3500	4080	5490	6070	6650	8640	9220

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separators	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	--	-----------------------	--	--	--	--

For Each Additional Tank	Add	1350	For Each Skimming Tank	Add	1200
For Each Additional Separator	Add	580			
For Each Additional Heater/Treater	Add	2100			

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Water Injection Well / Water Disposal Well**

The basic equipment for a water injection well includes:

Wellhead
Injection lines - 1000'

Very Good**Barrels**

900	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
800	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
700	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
600	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
500	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
400	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
300	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
200	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
100	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Average**Barrels**

900	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
800	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
700	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
600	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
500	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
400	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
300	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
200	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
100	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Minimum**Barrels**

900	750	750	750	750	750	750	750	750	750	750	750
800	750	750	750	750	750	750	750	750	750	750	750
700	750	750	750	750	750	750	750	750	750	750	750
600	750	750	750	750	750	750	750	750	750	750	750
500	750	750	750	750	750	750	750	750	750	750	750
400	750	750	750	750	750	750	750	750	750	750	750
300	750	750	750	750	750	750	750	750	750	750	750
200	750	750	750	750	750	750	750	750	750	750	750
100	750	750	750	750	750	750	750	750	750	750	750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value ESP Water Supply Well**

The basic equipment for an electric submersible pump water supply well includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flow lines - 1000'

Very Good**Barrels**

	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
4100		60695	61510	62325	63140	63955	64770	65585	66400	67215	68030	68845
3800		55965	56780	57595	58410	59225	60040	60855	61670	62485	63300	64115
3400		52040	52790	53540	54290	55040	55790	56540	57290	58040	58790	59540
2800		50960	51710	52460	53210	53960	54710	55460	56210	56960	57710	58460
2300		47185	47935	48685	49435	50185	50935	51685	52435	53185	53935	54685
1900		46280	47030	47780	48530	49280	50030	50780	51530	52280	53030	53780
1600		43490	44240	44990	45740	46490	47240	47990	48740	49490	50240	50990
1100		38640	39390	40140	40890	41640	42390	43140	43890	44640	45390	46140
800	34570	38320	39070	39820	40570	41320	42070	42820	43570	44320	45070	45820
600	32410	36160	36910	37660	38410	39160	39910	40660	41410	42160	42910	43660
350	31970	35720	36470	37220	37970	38720	39470	40220	40970	41720	42470	43220
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
												Depth

Average**Barrels**

	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
4100		40330	40900	41470	42040	42610	43180	43750	44320	44890	45460	46030
3800		35700	36270	36840	37410	37980	38550	39120	39690	40260	40830	41400
3400		32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2800		32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2300		29765	30290	30815	31340	31865	32390	32915	33440	33965	34490	35015
1900		27655	28180	28705	29230	29755	30280	30805	31330	31855	32380	32905
1600		25745	26270	26795	27320	27845	28370	28895	29420	29945	30470	30995
1100		22285	22810	23335	23860	24385	24910	25435	25960	26485	27010	27535
800	19660	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010	27535
600	18670	21295	21820	22345	22870	23395	23920	24445	24970	25495	26020	26545
350	18150	20775	21300	21825	22350	22875	23400	23925	24450	24975	25500	26025
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
												Depth

Minimum**Barrels**

	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
4100		9485	9630	9775	9920	10065	10210	10355	10500	10645	10790	10935
3800		8965	9110	9255	9400	9545	9690	9835	9980	10125	10270	10415
3400		8250	8380	8510	8640	8770	8900	9030	9160	9290	9420	9550
2800		8040	8170	8300	8430	8560	8690	8820	8950	9080	9210	9340
2300		7450	7580	7710	7840	7970	8100	8230	8360	8490	8620	8750
1900		6930	7060	7190	7320	7450	7580	7710	7840	7970	8100	8230
1600		6460	6590	6720	6850	6980	7110	7240	7370	7500	7630	7760
1100		5580	5710	5840	5970	6100	6230	6360	6490	6620	6750	6880
800	4820	5470	5600	5730	5860	5990	6120	6250	6380	6510	6640	6770
600	4690	5340	5470	5600	5730	5860	5990	6120	6250	6380	6510	6640
350	4550	5200	5330	5460	5590	5720	5850	5980	6110	6240	6370	6500
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
												Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Water Supply Well (Gas Engine)**

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods to Depth
Wellhead	Rod Pump
Gas Engine	Flow lines - 1000'

Very Good**Barrels**

900	85507	86466	90403									
800	85507	86466	88296	92065								
700	65521	86466	88296	92065								
600	57482	67032	88296	86805	93728							
500	57482	58308	68544	86805	88468	95390						
400	51042	58308	59584	70055	73228	90130	95403	97065				
300	42224	43176	51866	53030	63135	64534	91543	93205	98478			
200	38110	39020	39930	39800	40710	55358	56522	67333	68733	70132	98193	
100	25515	26380	35215	36080	36945	37810	43076	51826	62353	63752	73436	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth**Average****Barrels**

900	42323	42578	46366									
800	42323	42578	43443	47173								
700	35728	42578	43443	47173								
600	32934	36468	43443	43613	47979							
500	32934	32996	37208	43613	44419	48785						
400	27824	32996	33638	37948	39419	45225	49481	50288				
300	22204	22706	28068	28650	35089	35775	45511	46318	50574			
200	21055	21528	22002	21385	21859	29814	30396	37148	37834	38520	48736	
100	14488	14920	19583	20015	20448	20880	23176	26718	33004	33690	40116	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth**Minimum****Barrels**

900	10732	10791	11758									
800	10732	10791	11000	11955								
700	9098	10791	11000	11955								
600	8489	9278	11000	11065	12153							
500	8489	8507	9457	11065	11263	12350						
400	7219	8507	8676	9637	10013	11460	12518	12715				
300	5846	5984	7312	7467	8945	9115	11528	11725	12783			
200	5533	5660	5788	5645	5773	7776	7931	9454	9623	9793	12318	
100	3884	4000	5176	5293	5409	5525	6164	6916	8433	8603	10135	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Pumping Water Supply Well (Electric Motor)**

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods to Depth
Wellhead	Rod Pump
Electric Motor	Flow lines - 1000'
Control Panel	

Very Good

Barrels

900	76447	78276	82213									
800	76447	78276	80106	83875								
700	59231	78276	80106	83875								
600	52372	60742	80106	80265	85538							
500	52372	53648	62254	80265	81928	87200						
400	46742	53648	54924	63765	66938	83590	88863	90525				
300	38644	39596	48286	49450	58835	60234	85253	86915	92188			
200	34560	35470	36380	37290	38200	51778	52942	63033	64433	65832	91903	
100	23935	24800	32705	33570	34435	35300	40566	48276	58803	60202	69136	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

Average

Barrels

900	35533	36398	40186									
800	35533	36398	37263	40993								
700	30178	36398	37263	40993								
600	28324	30918	37263	37543	41799							
500	28324	28966	31658	37543	38349	42605						
400	24114	28966	29608	32398	33869	39155	43411	44218				
300	18994	19496	24858	25440	31379	32065	39961	40768	45024			
200	17965	18438	18912	19385	19859	26604	27186	33438	34124	34810	43186	
100	12608	13040	17583	18015	18448	18880	21176	23628	29914	30600	36406	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

Minimum

Barrels

900	9042	9251	10218									
800	9042	9251	9460	10415								
700	7718	9251	9460	10415								
600	7339	7898	9460	9555	10613							
500	7339	7507	8077	9555	9753	10810						
400	6299	7507	7676	8257	8633	9950	11008	11205				
300	5046	5184	6512	6667	8025	8195	10148	10345	11403			
200	4763	4890	5018	5145	5273	6976	7131	8534	8703	8873	10938	
100	3414	3530	4676	4793	4909	5025	5664	6246	7663	7833	9215	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Shallow Pumping Gas Well with Tank with Separator
(Electric Motor)**

The basic equipment for a shallow pumping gas well with fiberglass storage tank and separator includes:

Pumping Unit	Control Panel
Electric Motor	Rod Pump
Wellhead	100 Barrel Fiberglass Storage Tank
Sucker Rods to Depth	Flow lines - 600'
Separator	

Very Good**Barrels**

900	24436	25948	29367
800	23494	25948	27459
700	23494	24770	27459
600	22198	24770	26046
500	22198	23150	26046
400	22198	23150	24102
300	22030	22940	24102
200	22030	22940	23850
100	21850	22715	23580
	2000	2500	3000
	Depth		

Average**Barrels**

900	12619	13359	14849
800	12228	13359	14099
700	12228	12870	14099
600	11668	12870	13512
500	11668	12870	13512
400	11554	12170	12672
300	11554	12170	12672
200	11390	12028	12501
100	11390	11823	12255
	2000	2500	3000
	Depth		

Minimum**Barrels**

900	3320	3458	3595
800	3320	3458	3595
700	3320	3458	3595
600	3320	3458	3595
500	3320	3458	3595
400	3320	3458	3595
300	3320	3458	3595
200	3320	3458	3595
100	3320	3458	3595
	2000	2500	3000
	Depth		

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Shallow Pumping Gas Well without Tank with Separator
(Electric Motor)**

The basic equipment for a shallow pumping gas well without fiberglass storage tank and with separator includes:

Pumping Unit	Control Panel
Electric Motor	Rod Pump
Wellhead	Flow lines - 1000'
Sucker Rods to Depth	
Separator	

Very Good**Barrels**

900	23136	24648	28067
800	22194	24648	26159
700	22194	23470	26159
600	20898	23470	24746
500	20898	21850	24746
400	20898	21850	22802
300	20730	21640	22802
200	20730	21640	22550
100	20550	21415	22280
	2000	2500	3000
	Depth		

Average**Barrels**

900	12099	12839	14329
800	11708	12839	13579
700	11708	12350	13579
600	11148	12350	12992
500	11148	12350	12992
400	11034	11650	12152
300	11034	11650	12152
200	10870	11508	11981
100	10870	11303	11735
	2000	2500	3000
	Depth		

Minimum**Barrels**

900	3040	3178	3315
800	3040	3178	3315
700	3040	3178	3315
600	3040	3178	3315
500	3040	3178	3315
400	3040	3178	3315
300	3040	3178	3315
200	3040	3178	3315
100	3040	3178	3315
	2000	2500	3000
	Depth		

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Shallow Pumping Gas Well without Tank without Separator (Electric Motor)**

The basic equipment for a shallow pumping gas well with fiberglass storage tank without separator includes:

Pumping Unit	Control Panel
Electric Motor	Rod Pump
Wellhead	Flow lines - 1000'
Sucker Rods to Depth	

Very Good**Barrels**

900	20126	21638	25057
800	19184	21638	23149
700	19184	20460	23149
600	17888	20460	21736
500	17888	18840	21736
400	17888	18840	19792
300	17720	18630	19792
200	17720	18630	19540
100	17540	18405	19270
	2000	2500	3000
	Depth		

Average**Barrels**

900	10719	11459	12949
800	10328	11459	12199
700	10328	10970	12199
600	9768	10970	11612
500	9768	10970	11612
400	9654	10270	10772
300	9654	10270	10772
200	9490	10128	10601
100	9490	9923	10355
	2000	2500	3000
	Depth		

Minimum**Barrels**

900	2690	2828	2965
800	2690	2828	2965
700	2690	2828	2965
600	2690	2828	2965
500	2690	2828	2965
400	2690	2828	2965
300	2690	2828	2965
200	2690	2828	2965
100	2690	2828	2965
	2000	2500	3000
	Depth		

Total Value Flowing Shallow Gas Well with Tank and with Separator

The basic equipment for a flowing shallow gas well with fiberglass storage tank and with separator includes:

Wellhead
 100 Barrel Fiberglass Storage Tank
 Flow lines - 600'
 Separator

**Very Good
MCF**

850	8700	8700	8700
750	8700	8700	8700
650	8700	8700	8700
550	8700	8700	8700
450	8700	8700	8700
350	8700	8700	8700
250	8700	8700	8700
150	8700	8700	8700
60	8700	8700	8700
	2000	2500	3000
	Depth		

**Average
MCF**

850	4850	4850	4850
750	4850	4850	4850
650	4850	4850	4850
550	4850	4850	4850
450	4850	4850	4850
350	4850	4850	4850
250	4850	4850	4850
150	4850	4850	4850
60	4850	4850	4850
	2000	2500	3000
	Depth		

**Minimum
MCF**

850	1380	1380	1380
750	1380	1380	1380
650	1380	1380	1380
550	1380	1380	1380
450	1380	1380	1380
350	1380	1380	1380
250	1380	1380	1380
150	1380	1380	1380
60	1380	1380	1380
	2000	2500	3000
	Depth		

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Shallow Gas Well without Tank and with Separator**

The basic equipment for a flowing shallow gas well without fiberglass storage tank and with separator:

Wellhead
Flow lines - 1000'
Separator

Very Good**MCF**

850	7400	7400	7400
750	7400	7400	7400
650	7400	7400	7400
550	7400	7400	7400
450	7400	7400	7400
350	7400	7400	7400
250	7400	7400	7400
150	7400	7400	7400
60	7400	7400	7400
	2000	2500	3000
	Depth		

Average**MCF**

850	4330	4330	4330
750	4330	4330	4330
650	4330	4330	4330
550	4330	4330	4330
450	4330	4330	4330
350	4330	4330	4330
250	4330	4330	4330
150	4330	4330	4330
60	4330	4330	4330
	2000	2500	3000
	Depth		

Minimum**MCF**

850	1100	1100	1100
750	1100	1100	1100
650	1100	1100	1100
550	1100	1100	1100
450	1100	1100	1100
350	1100	1100	1100
250	1100	1100	1100
150	1100	1100	1100
60	1100	1100	1100
	2000	2500	3000
	Depth		

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Shallow Gas Well without Tank and without Separator**

The basic equipment for a flowing shallow gas well without fiberglass storage tank and without separator:

Wellhead
Flow lines - 1000'

Very Good**MCF**

850	4390	4390	4390
750	4390	4390	4390
650	4390	4390	4390
550	4390	4390	4390
450	4390	4390	4390
350	4390	4390	4390
250	4390	4390	4390
150	4390	4390	4390
60	4390	4390	4390
	2000	2500	3000
	Depth		

Average**MCF**

850	2950	2950	2950
750	2950	2950	2950
650	2950	2950	2950
550	2950	2950	2950
450	2950	2950	2950
350	2950	2950	2950
250	2950	2950	2950
150	2950	2950	2950
60	2950	2950	2950
	2000	2500	3000
	Depth		

Minimum**MCF**

850	750	750	750
750	750	750	750
650	750	750	750
550	750	750	750
450	750	750	750
350	750	750	750
250	750	750	750
150	750	750	750
60	750	750	750
	2000	2500	3000
	Depth		

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Hydraulic Pump Gas Well with Tank (Gas Engine)**

The basic equipment for a hydraulic pump gas well with oil storage tank includes:

Pumping Unit-Hydraulic
Gas Engine
Wellhead
Sucker Rods to Depth

Rod Pump
Production Unit
100 Barrel Oil Storage Tank with Stairway
Flow lines - 600'

Very Good**Barrels**

900	47287	48246	48573									
800	47287	48246	50076	50235								
700	42291	48246	50076	50235								
600	39462	43802	50076	48585	51898							
500	39462	40288	45314	48585	50248	53560						
400	38652	40288	41564	46825	49998	51910	53573	55235				
300	35664	36616	39476	40640	45115	46514	53323	54985	56648			
200	35340	36250	37160	37030	37940	42968	44132	49313	50713	52112	59973	
100	33055	33920	35715	36580	37445	38310	40306	45266	49963	51362	55416	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Average**Barrels**

900	27243	27498	27836									
800	27243	27498	28363	28643								
700	25128	27498	28363	28643								
600	23504	25868	28363	28533	29449							
500	23504	23566	26608	28533	29339	30255						
400	22604	23566	24208	27348	28819	30145	30951	31758				
300	21124	21626	22848	23430	25659	26345	30431	31238	32044			
200	20805	21278	21752	21135	21609	24594	25176	27718	28404	29090	33656	
100	19308	19740	20293	20725	21158	21590	22926	25638	27784	28470	30686	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Minimum**Barrels**

900	6822	6881	6988									
800	6822	6881	7090	7185								
700	6308	6881	7090	7185								
600	5999	6488	7090	7155	7383							
500	5999	6017	6667	7155	7353	7580						
400	5769	6017	6186	6847	7223	7550	7748	7945				
300	5436	5574	5862	6017	6455	6625	7618	7815	8013			
200	5333	5460	5588	5445	5573	6326	6481	6964	7133	7303	8408	
100	4954	5070	5216	5333	5449	5565	5964	6506	6983	7153	7645	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Hydraulic Pump Gas Well without Tank (Gas Engine)**

The basic equipment for a hydraulic pump gas well without oil storage tank includes:

Pumping Unit-Hydraulic
 Gas Engine
 Wellhead
 Rod Pump
 Flow lines - 1000'
 Sucker Rods to Depth

Very Good

Barrels

900	34317	35276	35603									
800	34317	35276	37106	37265								
700	29321	35276	37106	37265								
600	26492	30832	37106	35615	38928							
500	26492	27318	32344	35615	37278	40590						
400	25682	27318	28594	33855	37028	38940	40603	42265				
300	22694	23646	26506	27670	32145	33544	40353	42015	43678			
200	22370	23280	24190	24060	24970	29998	31162	36343	37743	39142	47003	
100	20085	20950	22745	23610	24475	25340	27336	32296	36993	38392	42446	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Average

Barrels

900	20143	20398	20736									
800	20143	20398	21263	21543								
700	18028	20398	21263	21543								
600	16404	18768	21263	21433	22349							
500	16404	16466	19508	21433	22239	23155						
400	15504	16466	17108	20248	21719	23045	23851	24658				
300	14024	14526	15748	16330	18559	19245	23331	24138	24944			
200	13705	14178	14652	14035	14509	17494	18076	20618	21304	21990	26556	
100	12208	12640	13193	13625	14058	14490	15826	18538	20684	21370	23586	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Minimum

Barrels

900	5162	5221	5328									
800	5162	5221	5430	5525								
700	4648	5221	5430	5525								
600	4339	4828	5430	5495	5723							
500	4339	4357	5007	5495	5693	5920						
400	4109	4357	4526	5187	5563	5890	6088	6285				
300	3776	3914	4202	4357	4795	4965	5958	6155	6353			
200	3673	3800	3928	3785	3913	4666	4821	5304	5473	5643	6748	
100	3294	3410	3556	3673	3789	3905	4304	4846	5323	5493	5985	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Hydraulic Pump Gas Well with Tank (Electric Motor)**

The basic equipment for a hydraulic pump gas well with oil storage tank includes:

Pumping Unit-Hydraulic	Rod Pump
Electric Motor	Production Unit
Wellhead	100 Barrel Oil Storage Tank with Stairway
Sucker Rods to Depth	Flow lines - 600'
Control Panel	

Very Good**Barrels**

900	38227	40056	40383									
800	38227	40056	41886	42045								
700	36001	40056	41886	42045								
600	34352	37512	41886	42045	43708							
500	34352	35628	39024	42045	43708	45370						
400	34352	35628	36904	40535	43708	45370	47033	48695				
300	32084	33036	35896	37060	40815	42214	47033	48695	50358			
200	31790	32700	33610	34520	35430	39388	40552	45013	46413	47812	53683	
100	31475	32340	33205	34070	34935	35800	37796	41716	46413	47812	51116	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Average**Barrels**

900	20453	21318	21656									
800	20453	21318	22183	22463								
700	19578	21318	22183	22463								
600	18894	20318	22183	22463	23269							
500	18894	19536	21058	22463	23269	24075						
400	18894	19536	20178	21798	23269	24075	24881	25688				
300	17914	18416	19638	20220	21949	22635	24881	25688	26494			
200	17715	18188	18662	19135	19609	21384	21966	24008	24694	25380	28106	
100	17428	17860	18293	18725	19158	19590	20926	22548	24694	25380	26976	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Minimum**Barrels**

900	5132	5341	5448									
800	5132	5341	5550	5645								
700	4928	5341	5550	5645								
600	4849	5108	5550	5645	5843							
500	4849	5017	5287	5645	5843	6040						
400	4849	5017	5186	5467	5843	6040	6238	6435				
300	4636	4774	5062	5217	5535	5705	6238	6435	6633			
200	4563	4690	4818	4945	5073	5526	5681	6044	6213	6383	7028	
100	4484	4600	4716	4833	4949	5065	5464	5836	6213	6383	6725	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Hydraulic Pump Gas Well without Tank (Electric Motor)**

The basic equipment for a hydraulic pump gas well without oil storage tank includes:

Pumping Unit-Hydraulic
Electric Motor
Wellhead
Sucker Rods to Depth

Rod Pump
Flow lines - 1000'
Control Panel

Very Good

Barrels

900	25257	27086	27413									
800	25257	27086	28916	29075								
700	23031	27086	28916	29075								
600	21382	24542	28916	29075	30738							
500	21382	22658	26054	29075	30738	32400						
400	21382	22658	23934	27565	30738	32400	34063	35725				
300	19114	20066	22926	24090	27845	29244	34063	35725	37388			
200	18820	19730	20640	21550	22460	26418	27582	32043	33443	34842	40713	
100	18505	19370	20235	21100	21965	22830	24826	28746	33443	34842	38146	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	13353	14218	14556									
800	13353	14218	15083	15363								
700	12478	14218	15083	15363								
600	11794	13218	15083	15363	16169							
500	11794	12436	13958	15363	16169	16975						
400	11794	12436	13078	14698	16169	16975	17781	18588				
300	10814	11316	12538	13120	14849	15535	17781	18588	19394			
200	10615	11088	11562	12035	12509	14284	14866	16908	17594	18280	21006	
100	10328	10760	11193	11625	12058	12490	13826	15448	17594	18280	19876	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	3472	3681	3788									
800	3472	3681	3890	3985								
700	3268	3681	3890	3985								
600	3189	3448	3890	3985	4183							
500	3189	3357	3627	3985	4183	4380						
400	3189	3357	3526	3807	4183	4380	4578	4775				
300	2976	3114	3402	3557	3875	4045	4578	4775	4973			
200	2903	3030	3158	3285	3413	3866	4021	4384	4553	4723	5368	
100	2824	2940	3056	3173	3289	3405	3804	4176	4553	4723	5065	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Hydraulic Lift Gas Well without Tanks**

The basic equipment for a hydraulic lift gas well without storage tanks includes:

Wellhead with Lubricator
Hydraulic Lift
Production Unit

Flow lines - 1000'

**Very Good
MCF**

850	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440
750	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440
650	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440
550	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440
450	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440
350	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440
250	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440
150	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440
60	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440	27440
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
MCF**

850	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210
750	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210
650	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210
550	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210
450	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210
350	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210
250	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210
150	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210
60	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210	16210
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
MCF**

850	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060
750	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060
650	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060
550	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060
450	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060
350	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060
250	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060
150	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060
60	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060	4060
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Hydraulic Pump Oil Well with Tanks (Gas Engine)**

The basic equipment for a hydraulic pump oil well with oil storage tanks includes:

Pumping Unit-Hydraulic
Gas Engine
Wellhead
Sucker Rods to Depth

Rod Pump
Heater Treater
300 Barrel Storage Oil Storage Tanks with Stairway
Flow lines - 600'

Very Good**Barrels**

900	59277	60236	60563									
800	59277	60236	62066	62225								
700	54281	60236	62066	62225								
600	49312	53652	59926	58435	61748							
500	49312	50138	55164	58435	60098	63410						
400	48502	50138	51414	56675	59848	61760	63423	65085				
300	45514	46466	49326	50490	54965	56364	63173	64835	66498			
200	45190	46100	47010	46880	47790	52818	53982	59163	60563	61962	69823	
100	42905	43770	45565	46430	47295	48160	50156	55116	59813	61212	65266	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
	Depth											

Average**Barrels**

900	33543	33798	34136									
800	33543	33798	34663	34943								
700	31428	33798	34663	34943								
600	29344	31708	34203	34373	35289							
500	29344	29406	32448	34373	35179	36095						
400	28444	29406	30048	33188	34659	35985	36791	37598				
300	26964	27466	28688	29270	31499	32185	36271	37078	37884			
200	26645	27118	27592	26975	27449	30434	31016	33558	34244	34930	39496	
100	25148	25580	26133	26565	26998	27430	28766	31478	33624	34310	36526	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
	Depth											

Minimum**Barrels**

900	9742	9801	9908									
800	9742	9801	10010	10105								
700	9228	9801	10010	10105								
600	8809	9298	9900	9965	10193							
500	8809	8827	9477	9965	10163	10390						
400	8579	8827	8996	9657	10033	10360	10558	10755				
300	8246	8384	8672	8827	9265	9435	10428	10625	10823			
200	8143	8270	8398	8255	8383	9136	9291	9774	9943	10113	11218	
100	7764	7880	8026	8143	8259	8375	8774	9316	9793	9963	10455	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
	Depth											

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Hydraulic Pump Oil Well without Tank (Gas Engine)**

The basic equipment for a hydraulic pump oil well without oil storage tanks includes:

Pumping Unit-Hydraulic
 Gas Engine
 Wellhead
 Rod Pump
 Flow lines - 1000'
 Sucker Rods to Depth

Very Good**Barrels**

900	34317	35276	35603									
800	34317	35276	37106	37265								
700	29321	35276	37106	37265								
600	26492	30832	37106	35615	38928							
500	26492	27318	32344	35615	37278	40590						
400	25682	27318	28594	33855	37028	38940	40603	42265				
300	22694	23646	26506	27670	32145	33544	40353	42015	43678			
200	22370	23280	24190	24060	24970	29998	31162	36343	37743	39142	47003	
100	20085	20950	22745	23610	24475	25340	27336	32296	36993	38392	42446	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Average**Barrels**

900	20143	20398	20736									
800	20143	20398	21263	21543								
700	18028	20398	21263	21543								
600	16404	18768	21263	21433	22349							
500	16404	16466	19508	21433	22239	23155						
400	15504	16466	17108	20248	21719	23045	23851	24658				
300	14024	14526	15748	16330	18559	19245	23331	24138	24944			
200	13705	14178	14652	14035	14509	17494	18076	20618	21304	21990	26556	
100	12208	12640	13193	13625	14058	14490	15826	18538	20684	21370	23586	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Minimum**Barrels**

900	5162	5221	5328									
800	5162	5221	5430	5525								
700	4648	5221	5430	5525								
600	4339	4828	5430	5495	5723							
500	4339	4357	5007	5495	5693	5920						
400	4109	4357	4526	5187	5563	5890	6088	6285				
300	3776	3914	4202	4357	4795	4965	5958	6155	6353			
200	3673	3800	3928	3785	3913	4666	4821	5304	5473	5643	6748	
100	3294	3410	3556	3673	3789	3905	4304	4846	5323	5493	5985	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Hydraulic Pump Oil Well with Tanks (Electric Motor)**

The basic equipment for a hydraulic pump oil well with oil storage tanks includes:

Pumping Unit-Hydraulic	Rod Pump
Electric Motor	Heater Treater
Wellhead	300 Barrel Oil Storage Tanks with Stairway
Sucker Rods to Depth	Flow lines - 600'
Control Panel	

Very Good**Barrels**

900	50217	52046	52373									
800	50217	52046	53876	54035								
700	47991	52046	53876	54035								
600	44202	47362	51736	51895	53558							
500	44202	45478	48874	51895	53558	55220						
400	44202	45478	46754	50385	53558	55220	56883	58545				
300	41934	42886	45746	46910	50665	52064	56883	58545	60208			
200	41640	42550	43460	44370	45280	49238	50402	54863	56263	57662	63533	
100	41325	42190	43055	43920	44785	45650	47646	51566	56263	57662	60966	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Average**Barrels**

900	26753	27618	27956									
800	26753	27618	28483	28763								
700	25878	27618	28483	28763								
600	24734	26158	28023	28303	29109							
500	24734	25376	26898	28303	29109	29915						
400	24734	25376	26018	27638	29109	29915	30721	31528				
300	23754	24256	25478	26060	27789	28475	30721	31528	32334			
200	23555	24028	24502	24975	25449	27224	27806	29848	30534	31220	33946	
100	23268	23700	24133	24565	24998	25430	26766	28388	30534	31220	32816	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Minimum**Barrels**

900	8052	8261	8368									
800	8052	8261	8470	8565								
700	7848	8261	8470	8565								
600	7659	7918	8360	8455	8653							
500	7659	7827	8097	8455	8653	8850						
400	7659	7827	7996	8277	8653	8850	9048	9245				
300	7446	7584	7872	8027	8345	8515	9048	9245	9443			
200	7373	7500	7628	7755	7883	8336	8491	8854	9023	9193	9838	
100	7294	7410	7526	7643	7759	7875	8274	8646	9023	9193	9535	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Hydraulic Pump Oil Well without Tanks (Electric Motor)**

The basic equipment for a hydraulic pump oil well without oil storage tanks includes:

Pumping Unit-Hydraulic
Electric Motor
Wellhead
Sucker Rods to Depth

Rod Pump
Flow lines - 1000'
Control Panel

Very Good

Barrels

900	25257	27086	27413									
800	25257	27086	28916	29075								
700	23031	27086	28916	29075								
600	21382	24542	28916	29075	30738							
500	21382	22658	26054	29075	30738	32400						
400	21382	22658	23934	27565	30738	32400	34063	35725				
300	19114	20066	22926	24090	27845	29244	34063	35725	37388			
200	18820	19730	20640	21550	22460	26418	27582	32043	33443	34842	40713	
100	18505	19370	20235	21100	21965	22830	24826	28746	33443	34842	38146	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	13353	14218	14556									
800	13353	14218	15083	15363								
700	12478	14218	15083	15363								
600	11794	13218	15083	15363	16169							
500	11794	12436	13958	15363	16169	16975						
400	11794	12436	13078	14698	16169	16975	17781	18588				
300	10814	11316	12538	13120	14849	15535	17781	18588	19394			
200	10615	11088	11562	12035	12509	14284	14866	16908	17594	18280	21006	
100	10328	10760	11193	11625	12058	12490	13826	15448	17594	18280	19876	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	3472	3681	3788									
800	3472	3681	3890	3985								
700	3268	3681	3890	3985								
600	3189	3448	3890	3985	4183							
500	3189	3357	3627	3985	4183	4380						
400	3189	3357	3526	3807	4183	4380	4578	4775				
300	2976	3114	3402	3557	3875	4045	4578	4775	4973			
200	2903	3030	3158	3285	3413	3866	4021	4384	4553	4723	5368	
100	2824	2940	3056	3173	3289	3405	3804	4176	4553	4723	5065	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Progressive Cavity Oil Well with Tanks (Electric Motor)**

The basic equipment for a progressive cavity oil well with oil storage tanks includes:

Wellhead	Electric Motor
Heater/Treater	Progressive Cavity Pump with Stator and Rotor
300 Barrel Oil Storage Tanks	Sucker Rods to Depth
Flow Lines - 600'	Wellhead Drive

Very Good**Barrels**

900	64970	66920	68870	70820	72770
800	64970	66920	68870	70820	72770
700	64970	66920	68870	70820	72770
600	62830	64780	66730	68680	70630
500	62830	64780	66730	68680	70630
400	62830	64780	66730	68680	70630
300	62830	64780	66730	68680	70630
200	62830	64780	66730	68680	70630
100	62830	64780	66730	68680	70630
	3000	3500	4000	4500	5000

Depth**Average****Barrels**

900	36280	37205	38130	39055	39980
800	36280	37205	38130	39055	39980
700	36280	37205	38130	39055	39980
600	35820	36745	37670	38595	39520
500	35820	36745	37670	38595	39520
400	34770	36745	37670	38595	39520
300	34770	36745	37670	38595	39520
200	34770	36745	37670	38595	39520
100	34770	36745	37670	38595	39520
	3000	3500	4000	4500	5000

Depth**Minimum****Barrels**

900	10120	10320	10520	10720	10920
800	10120	10320	10520	10720	10920
700	10120	10320	10520	10720	10920
600	10010	10210	10410	10610	10810
500	10010	10210	10410	10610	10810
400	9950	10210	10410	10610	10810
300	9950	10210	10410	10610	10810
200	9950	10210	10410	10610	10810
100	9950	10210	10410	10610	10810
	3000	3500	4000	4500	5000

Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value Progressive Cavity Oil Well without Tanks (Electric Motor)**

The basic equipment for a progressive cavity oil well without oil storage tanks includes:

Wellhead	Progressive Cavity Pump with Stator and Rotor
Flow Lines - 1000'	Sucker Rods to Depth
Electric Motor	Wellhead Drive

Very Good**Barrels**

900	40010	41960	43910	45860	47810
800	40010	41960	43910	45860	47810
700	40010	41960	43910	45860	47810
600	40010	41960	43910	45860	47810
500	40010	41960	43910	45860	47810
400	40010	41960	43910	45860	47810
300	40010	41960	43910	45860	47810
200	40010	41960	43910	45860	47810
100	40010	41960	43910	45860	47810
	3000	3500	4000	4500	5000

Depth**Average****Barrels**

900	22880	23805	24730	25655	26580
800	22880	23805	24730	25655	26580
700	22880	23805	24730	25655	26580
600	22880	23805	24730	25655	26580
500	22880	23805	24730	25655	26580
400	21830	23805	24730	25655	26580
300	21830	23805	24730	25655	26580
200	21830	23805	24730	25655	26580
100	21830	23805	24730	25655	26580
	3000	3500	4000	4500	5000

Depth**Minimum****Barrels**

900	5540	5740	5940	6140	6340
800	5540	5740	5940	6140	6340
700	5540	5740	5940	6140	6340
600	5540	5740	5940	6140	6340
500	5540	5740	5940	6140	6340
400	5480	5740	5940	6140	6340
300	5480	5740	5940	6140	6340
200	5480	5740	5940	6140	6340
100	5480	5740	5940	6140	6340
	3000	3500	4000	4500	5000

Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value ESP Oil Well with Tanks (Electric Motor)**

The basic equipment for an ESP oil well with oil storage tanks includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flowlines - 600'
Heater/Treater	300 Barrel Oil Storage Tanks

Very Good**Barrels**

4100	79765	80580	81395	82210	83025	83840	84655	85470	86285	87100	87915
3800	75035	75850	76665	77480	78295	79110	79925	80740	81555	82370	83185
3400	71110	71860	72610	73360	74110	74860	75610	76360	77110	77860	78610
2800	70030	70780	71530	72280	73030	73780	74530	75280	76030	76780	77530
2300	66255	67005	67755	68505	69255	70005	70755	71505	72255	73005	73755
1900	65350	66100	66850	67600	68350	69100	69850	70600	71350	72100	72850
1600	62560	63310	64060	64810	65560	66310	67060	67810	68560	69310	70060
1100	57710	58460	59210	59960	60710	61460	62210	62960	63710	64460	65210
800	53640	57390	58140	58890	59640	60390	61140	61890	62640	63390	64140
600	49340	53090	53840	54590	55340	56090	56840	57590	58340	59090	59840
350	48900	52650	53400	54150	54900	55650	56400	57150	57900	58650	59400
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

Average**Barrels**

4100	50790	51360	51930	52500	53070	53640	54210	54780	55350	55920	56490
3800	46160	46730	47300	47870	48440	49010	49580	50150	50720	51290	51860
3400	43415	43940	44465	44990	45515	46040	46565	47090	47615	48140	48665
2800	43415	43940	44465	44990	45515	46040	46565	47090	47615	48140	48665
2300	40225	40750	41275	41800	42325	42850	43375	43900	44425	44950	45475
1900	38115	38640	39165	39690	40215	40740	41265	41790	42315	42840	43365
1600	36205	36730	37255	37780	38305	38830	39355	39880	40405	40930	41455
1100	32745	33270	33795	34320	34845	35370	35895	36420	36945	37470	37995
800	30120	32745	33270	33795	34320	34845	35370	35895	36420	36945	37470
600	28670	31295	31820	32345	32870	33395	33920	34445	34970	35495	36020
350	28150	30775	31300	31825	32350	32875	33400	33925	34450	34975	35500
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

Minimum**Barrels**

4100	12715	12860	13005	13150	13295	13440	13585	13730	13875	14020	14165
3800	12195	12340	12485	12630	12775	12920	13065	13210	13355	13500	13645
3400	11480	11610	11740	11870	12000	12130	12260	12390	12520	12650	12780
2800	11270	11400	11530	11660	11790	11920	12050	12180	12310	12440	12570
2300	10680	10810	10940	11070	11200	11330	11460	11590	11720	11850	11980
1900	10160	10290	10420	10550	10680	10810	10940	11070	11200	11330	11460
1600	9690	9820	9950	10080	10210	10340	10470	10600	10730	10860	10990
1100	8810	8940	9070	9200	9330	9460	9590	9720	9850	9980	10110
800	8050	8700	8830	8960	9090	9220	9350	9480	9610	9740	9870
600	7810	8460	8590	8720	8850	8980	9110	9240	9370	9500	9630
350	7670	8320	8450	8580	8710	8840	8970	9100	9230	9360	9490
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

D-J BASIN BASIC EQUIPMENT LISTS**Total Value ESP Oil Well without Tanks (Electric Motor)**

The basic equipment for an ESP oil well without oil storage tanks includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flowlines - 1000'

Very Good**Barrels**

4100	60695	61510	62325	63140	63955	64770	65585	66400	67215	68030	68845
3800	55965	56780	57595	58410	59225	60040	60855	61670	62485	63300	64115
3400	52040	52790	53540	54290	55040	55790	56540	57290	58040	58790	59540
2800	50960	51710	52460	53210	53960	54710	55460	56210	56960	57710	58460
2300	47185	47935	48685	49435	50185	50935	51685	52435	53185	53935	54685
1900	46280	47030	47780	48530	49280	50030	50780	51530	52280	53030	53780
1600	43490	44240	44990	45740	46490	47240	47990	48740	49490	50240	50990
1100	38640	39390	40140	40890	41640	42390	43140	43890	44640	45390	46140
800	34570	38320	39070	39820	40570	41320	42070	42820	43570	44320	45070
600	32410	36160	36910	37660	38410	39160	39910	40660	41410	42160	42910
350	31970	35720	36470	37220	37970	38720	39470	40220	40970	41720	42470
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

Average**Barrels**

4100	40330	40900	41470	42040	42610	43180	43750	44320	44890	45460	46030
3800	35700	36270	36840	37410	37980	38550	39120	39690	40260	40830	41400
3400	32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2800	32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2300	29765	30290	30815	31340	31865	32390	32915	33440	33965	34490	35015
1900	27655	28180	28705	29230	29755	30280	30805	31330	31855	32380	32905
1600	25745	26270	26795	27320	27845	28370	28895	29420	29945	30470	30995
1100	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010	27535
800	19660	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010
600	18670	21295	21820	22345	22870	23395	23920	24445	24970	25495	26020
350	18150	20775	21300	21825	22350	22875	23400	23925	24450	24975	25500
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

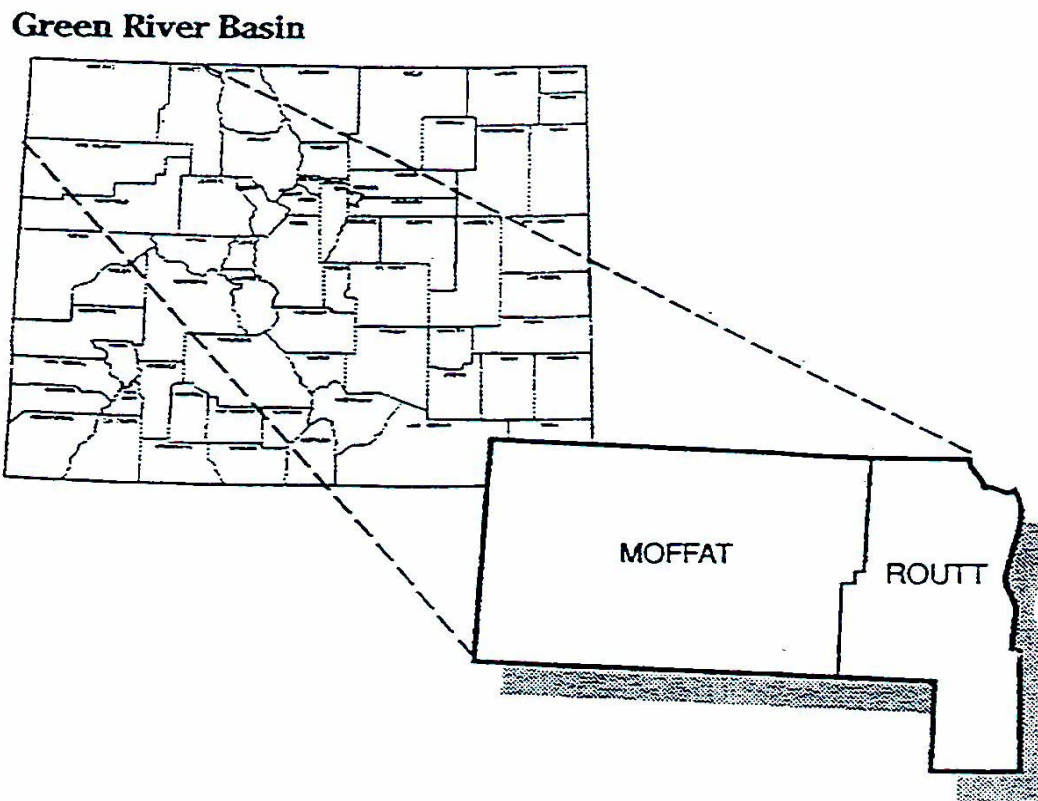
Minimum**Barrels**

4100	9485	9630	9775	9920	10065	10210	10355	10500	10645	10790	10935
3800	8965	9110	9255	9400	9545	9690	9835	9980	10125	10270	10415
3400	8250	8380	8510	8640	8770	8900	9030	9160	9290	9420	9550
2800	8040	8170	8300	8430	8560	8690	8820	8950	9080	9210	9340
2300	7450	7580	7710	7840	7970	8100	8230	8360	8490	8620	8750
1900	6930	7060	7190	7320	7450	7580	7710	7840	7970	8100	8230
1600	6460	6590	6720	6850	6980	7110	7240	7370	7500	7630	7760
1100	5580	5710	5840	5970	6100	6230	6360	6490	6620	6750	6880
800	4820	5470	5600	5730	5860	5990	6120	6250	6380	6510	6640
600	4690	5340	5470	5600	5730	5860	5990	6120	6250	6380	6510
350	4550	5200	5330	5460	5590	5720	5850	5980	6110	6240	6370
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

This page left blank intentionally.

GREEN RIVER BASIN

The Green River Basin is located in the northwest corner of the state. It includes the following counties:

Moffat**Routt**

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well with Tanks (Gas Engine)

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Gas Engine	Rod Pump
Wellhead	400 Barrel Oil Storage Tanks with Stairway
Heater Treater	Flow lines - 600'
Line Heater	

Very Good

Barrels

900	126797	127756	131693									
800	126797	127756	129586	133355								
700	106811	127756	129586	133355								
600	96632	106182	127446	125955	132878							
500	96632	97458	107694	125955	127618	134540						
400	90192	97458	98734	109205	112378	129280	134553	136215				
300	81374	82326	91016	92180	102285	103684	130693	132355	137628			
200	77260	78170	79080	78950	79860	94508	95672	106483	107883	109282	137343	
100	64665	65530	74365	75230	76095	76960	82226	90976	101503	102902	112586	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

Average

Barrels

900	60233	60488	64276									
800	60233	60488	61353	65083								
700	53638	60488	61353	65083								
600	50384	53918	60893	61063	65429							
500	50384	50446	54658	61063	61869	66235						
400	45274	50446	51088	55398	56869	62675	66931	67738				
300	39654	40156	45518	46100	52539	53225	62961	63768	68024			
200	38505	38978	39452	38835	39309	47264	47846	54598	55284	55970	66186	
100	31938	32370	37033	37465	37898	38330	40626	44168	50454	51140	57566	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

Minimum

Barrels

900	16702	16761	17728									
800	16702	16761	16970	17925								
700	15068	16761	16970	17925								
600	14349	15138	16860	16925	18013							
500	14349	14367	15317	16925	17123	18210						
400	13079	14367	14536	15497	15873	17320	18378	18575				
300	11706	11844	13172	13327	14805	14975	17388	17585	18643			
200	11393	11520	11648	11505	11633	13636	13791	15314	15483	15653	18178	
100	9744	9860	11036	11153	11269	11385	12024	12776	14293	14463	15995	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well with Tanks (Electric Motor)

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	400 Barrel Oil Storage Tanks with Stairway
Wellhead	Flow lines - 600'
Heater Treater	
Line Heater	

Very Good

Barrels

900	117737	119566	123503									
800	117737	119566	121396	125165								
700	100521	119566	121396	125165								
600	91522	99892	119256	119415	124688							
500	91522	92798	101404	119415	121078	126350						
400	85892	92798	94074	102915	106088	122740	128013	129675				
300	77794	78746	87436	88600	97985	99384	124403	126065	131338			
200	73710	74620	75530	76440	77350	90928	92092	102183	103583	104982	131053	
100	63085	63950	71855	72720	73585	74450	79716	87426	97953	99352	108286	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	53443	54308	58096									
800	53443	54308	55173	58903								
700	48088	54308	55173	58903								
600	45774	48368	54713	54993	59249							
500	45774	46416	49108	54993	55799	60055						
400	41564	46416	47058	49848	51319	56605	60861	61668				
300	36444	36946	42308	42890	48829	49515	57411	58218	62474			
200	35415	35888	36362	36835	37309	44054	44636	50888	51574	52260	60636	
100	30058	30490	35033	35465	35898	36330	38626	41078	47364	48050	53856	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	15012	15221	16188									
800	15012	15221	15430	16385								
700	13688	15221	15430	16385								
600	13199	13758	15320	15415	16473							
500	13199	13367	13937	15415	15613	16670						
400	12159	13367	13536	14117	14493	15810	16868	17065				
300	10906	11044	12372	12527	13885	14055	16008	16205	17263			
200	10623	10750	10878	11005	11133	12836	12991	14394	14563	14733	16798	
100	9274	9390	10536	10653	10769	10885	11524	12106	13523	13693	15075	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well without Tanks (Gas Engine)

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit	Rod Pump
Gas Engine	Flow lines - 1000'
Wellhead	Line Heater
Sucker Rods to Depth	

Very Good

Barrels

900	94517	95476	99413									
800	94517	95476	97306	101075								
700	74531	95476	97306	101075								
600	66492	76042	97306	95815	102738							
500	66492	67318	77554	95815	97478	104400						
400	60052	67318	68594	79065	82238	99140	104413	106075				
300	51234	52186	60876	62040	72145	73544	100553	102215	107488			
200	47120	48030	48940	48810	49720	64368	65532	76343	77743	79142	107203	
100	34525	35390	44225	45090	45955	46820	52086	60836	71363	72762	82446	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	46053	46308	50096									
800	46053	46308	47173	50903								
700	39458	46308	47173	50903								
600	36664	40198	47173	47343	51709							
500	36664	36726	40938	47343	48149	52515						
400	31554	36726	37368	41678	43149	48955	53211	54018				
300	25934	26436	31798	32380	38819	39505	49241	50048	54304			
200	24785	25258	25732	25115	25589	33544	34126	40878	41564	42250	52466	
100	18218	18650	23313	23745	24178	24610	26906	30448	36734	37420	43846	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	11822	11881	12848									
800	11822	11881	12090	13045								
700	10188	11881	12090	13045								
600	9579	10368	12090	12155	13243							
500	9579	9597	10547	12155	12353	13440						
400	8309	9597	9766	10727	11103	12550	13608	13805				
300	6936	7074	8402	8557	10035	10205	12618	12815	13873			
200	6623	6750	6878	6735	6863	8866	9021	10544	10713	10883	13408	
100	4974	5090	6266	6383	6499	6615	7254	8006	9523	9693	11225	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well without Tanks (Electric Motor)

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	Flow lines - 1000'
Wellhead	Line Heater

Very Good

Barrels

900	85457	87286	91223									
800	85457	87286	89116	92885								
700	68241	87286	89116	92885								
600	61382	69752	89116	89275	94548							
500	61382	62658	71264	89275	90938	96210						
400	55752	62658	63934	72775	75948	92600	97873	99535				
300	47654	48606	57296	58460	67845	69244	94263	95925	101198			
200	43570	44480	45390	46300	47210	60788	61952	72043	73443	74842	100913	
100	32945	33810	41715	42580	43445	44310	49576	57286	67813	69212	78146	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	39263	40128	43916									
800	39263	40128	40993	44723								
700	33908	40128	40993	44723								
600	32054	34648	40993	41273	45529							
500	32054	32696	35388	41273	42079	46335						
400	27844	32696	33338	36128	37599	42885	47141	47948				
300	22724	23226	28588	29170	35109	35795	43691	44498	48754			
200	21695	22168	22642	23115	23589	30334	30916	37168	37854	38540	46916	
100	16338	16770	21313	21745	22178	22610	24906	27358	33644	34330	40136	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	10132	10341	11308									
800	10132	10341	10550	11505								
700	8808	10341	10550	11505								
600	8429	8988	10550	10645	11703							
500	8429	8597	9167	10645	10843	11900						
400	7389	8597	8766	9347	9723	11040	12098	12295				
300	6136	6274	7602	7757	9115	9285	11238	11435	12493			
200	5853	5980	6108	6235	6363	8066	8221	9624	9793	9963	12028	
100	4504	4620	5766	5883	5999	6115	6754	7336	8753	8923	10305	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Oil Well with Tanks

The basic equipment for a flowing oil well with oil storage tanks includes:

Wellhead
 Heater Treater
 400 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'
 Line Heater

Very Good

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	45680	45680	45680	45680	45680	45680	45680	45680	45680	45680	45680
800	45680	45680	45680	45680	45680	45680	45680	45680	45680	45680	45680
700	45680	45680	45680	45680	45680	45680	45680	45680	45680	45680	45680
600	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540
500	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540
400	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540
300	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540
200	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540
100	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540	43540
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	20860	20860	20860	20860	20860	20860	20860	20860	20860	20860	20860
800	20860	20860	20860	20860	20860	20860	20860	20860	20860	20860	20860
700	20860	20860	20860	20860	20860	20860	20860	20860	20860	20860	20860
600	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
500	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
300	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
200	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
100	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720
800	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720
700	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720
600	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610
500	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610
400	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610
300	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610
200	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610
100	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610	6610
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Oil Well without Tanks

The basic equipment for a flowing oil well without oil storage tanks includes:

Wellhead
Flow lines - 1000'
Line Heater

Very Good

Barrels

900	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400
800	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400
700	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400
600	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400
500	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400
400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400
300	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400
200	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400
100	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400	13400
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Average

Barrels

900	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680
800	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680
700	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680
600	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680
500	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680
400	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680
300	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680
200	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680
100	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680	6680
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Minimum

Barrels

900	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840
800	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840
700	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840
600	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840
500	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840
400	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840
300	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840
200	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840
100	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840	1840
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well with Tank (Gas Engine)

The basic equipment for a pumping gas well with oil storage tank includes:

Pumping Unit	Rod Pump
Gas Engine	Production Unit
Wellhead	400 Barrel Oil Storage Tank with Stairway
Sucker Rods to Depth	Flow lines - 600'

Very Good

Barrels

900	107967	108926	112863									
800	107967	108926	110756	114525								
700	87981	108926	110756	114525								
600	79942	89492	110756	109265	116188							
500	79942	80768	91004	109265	110928	117850						
400	73502	80768	82044	92515	95688	112590	117863	119525				
300	64684	65636	74326	75490	85595	86994	114003	115665	120938			
200	60570	61480	62390	62260	63170	77818	78982	89793	91193	92592	120653	
100	47975	48840	57675	58540	59405	60270	65536	74286	84813	86212	95896	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	51503	51758	55546									
800	51503	51758	52623	56353								
700	44908	51758	52623	56353								
600	42114	45648	52623	52793	57159							
500	42114	42176	46388	52793	53599	57965						
400	37004	42176	42818	47128	48599	54405	58661	59468				
300	31384	31886	37248	37830	44269	44955	54691	55498	59754			
200	30235	30708	31182	30565	31039	38994	39576	46328	47014	47700	57916	
100	23668	24100	28763	29195	29628	30060	32356	35898	42184	42870	49296	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	13842	13901	14868									
800	13842	13901	14110	15065								
700	12208	13901	14110	15065								
600	11599	12388	14110	14175	15263							
500	11599	11617	12567	14175	14373	15460						
400	10329	11617	11786	12747	13123	14570	15628	15825				
300	8956	9094	10422	10577	12055	12225	14638	14835	15893			
200	8643	8770	8898	8755	8883	10886	11041	12564	12733	12903	15428	
100	6994	7110	8286	8403	8519	8635	9274	10026	11543	11713	13245	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well without Tank (Gas Engine)

The basic equipment for a pumping gas well without oil storage tank includes:

Pumping Unit
 Gas Engine
 Wellhead
 Rod Pump
 Flow lines - 1000'
 Sucker Rods to Depth

Very Good**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	89027	89986	93923								
800	89027	89986	91816	95585							
700	69041	89986	91816	95585							
600	61002	70552	91816	90325	97248						
500	61002	61828	72064	90325	91988	98910					
400	54562	61828	63104	73575	76748	93650	98923	100585			
300	45744	46696	55386	56550	66655	68054	95063	96725	101998		
200	41630	42540	43450	43320	44230	58878	60042	70853	72253	73652	101713
100	29035	29900	38735	39600	40465	41330	46596	55346	65873	67272	76956
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	43293	43548	47336								
800	43293	43548	44413	48143							
700	36698	43548	44413	48143							
600	33904	37438	44413	44583	48949						
500	33904	33966	38178	44583	45389	49755					
400	28794	33966	34608	38918	40389	46195	50451	51258			
300	23174	23676	29038	29620	36059	36745	46481	47288	51544		
200	22025	22498	22972	22355	22829	30784	31366	38118	38804	39490	49706
100	15458	15890	20553	20985	21418	21850	24146	27688	33974	34660	41086
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	11132	11191	12158								
800	11132	11191	11400	12355							
700	9498	11191	11400	12355							
600	8889	9678	11400	11465	12553						
500	8889	8907	9857	11465	11663	12750					
400	7619	8907	9076	10037	10413	11860	12918	13115			
300	6246	6384	7712	7867	9345	9515	11928	12125	13183		
200	5933	6060	6188	6045	6173	8176	8331	9854	10023	10193	12718
100	4284	4400	5576	5693	5809	5925	6564	7316	8833	9003	10535
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well with Tanks

The basic equipment for a flowing gas well with oil storage tanks includes:

Wellhead
 Production Unit
 400 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

Very Good

MCF

850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
750	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
650	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
550	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
450	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
350	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
250	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
150	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
60	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average

MCF

850	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
750	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
650	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
550	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
450	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
350	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
250	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
150	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
60	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum

MCF

850	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
750	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
650	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
550	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
450	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
350	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
250	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
150	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
60	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well without Tanks

The basic equipment for a flowing gas well without oil storage tanks includes:

Wellhead
 Production Unit
 Flow lines - 1000'

Very Good**MCF**

850	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
750	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
650	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
550	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
450	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
350	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
250	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
150	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
60	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Average****MCF**

850	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
750	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
650	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
550	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
450	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
350	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
250	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
150	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
60	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Minimum****MCF**

850	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
750	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
650	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
550	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
450	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
350	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
250	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
150	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
60	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well without Tanks or Production Unit

The basic equipment for a flowing gas well without tanks or production unit includes:

Wellhead
Flow lines - 1000'

**Very Good
MCF**

850	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
750	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
650	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
550	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
450	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
350	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
250	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
150	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
60	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
MCF**

850	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
750	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
650	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
550	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
450	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
350	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
250	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
150	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
60	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
MCF**

850	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
750	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
650	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
550	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
450	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
350	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
250	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
60	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

GREEN RIVER BASIN BASIC EQUIPMENT LISTS**Common Tank Battery**

The basic equipment for a common tank battery includes:

400 Barrel Oil Storage Tanks with Stairway

Heater Treaters

Recycle Pump

Separators

Manifolds and Headers

Very Good

Tanks

10	96530	110970	115780	125410	130220	135030	149470	154280
9	86980	101420	106230	115860	120670	125480	139920	144730
8	77430	91870	96680	106310	111120	115930	130370	135180
7	67880	82320	87130	96760	101570	106380	120820	125630
6	58330	70630	75440	82930	87740	92550	104850	109660
5	48780	61080	65890	73380	78190	83000	95300	100110
4	39230	51530	56340	63830	68640	73450	85750	90560
3	29680	41980	46790	54280	59090	63900	76200	81010
2	20130	32430	37240	44730	49540	54350	66650	71460
1	9550	22880	27690	35180	39990	44800	57100	61910

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	5890	For Each Skimming Tank	Add	6060
For Each Additional Separator	Add	4810			
For Each Additional Heater/Treater	Add	14440			

Average

Tanks

10	33940	42340	44670	50740	53070	55400	63800	66130
9	30610	39010	41340	47410	49740	52070	60470	62800
8	27280	35680	38010	44080	46410	48740	57140	59470
7	23950	32350	34680	40750	43080	45410	53810	56140
6	20620	28560	30890	36500	38830	41160	49100	51430
5	17290	25230	27560	33170	35500	37830	45770	48100
4	13960	21900	24230	29840	32170	34500	42440	44770
3	10630	18570	20900	26510	28840	31170	39110	41440
2	7300	15240	17570	23180	25510	27840	35780	38110
1	3330	11910	14240	19850	22180	24510	32450	34780

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	2940	For Each Skimming Tank	Add	3330
For Each Additional Separator	Add	2330			
For Each Additional Heater/Treater	Add	8400			

Minimum

Tanks

10	15160	17260	17840	19360	19940	20520	22620	23200
9	13660	15760	16340	17860	18440	19020	21120	21700
8	12160	14260	14840	16360	16940	17520	19620	20200
7	10660	12760	13340	14860	15440	16020	18120	18700
6	9160	11150	11730	13140	13720	14300	16290	16870
5	7660	9650	10230	11640	12220	12800	14790	15370
4	6160	8150	8730	10140	10720	11300	13290	13870
3	4660	6650	7230	8640	9220	9800	11790	12370
2	3160	5150	5730	7140	7720	8300	10290	10870
1	1500	3650	4230	5640	6220	6800	8790	9370

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separators	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	--	-----------------------	--	--	--	--

For Each Additional Tank	Add	1350	For Each Skimming Tank	Add	1200
For Each Additional Separator	Add	580			
For Each Additional Heater/Treater	Add	2100			

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Water Injection Well / Water Disposal Well

The basic equipment for a water injection well includes:

Wellhead
Injection lines - 1000'

Very Good

Barrels

900	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
800	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
700	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
600	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
500	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
400	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
300	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
200	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
100	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average

Barrels

900	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
800	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
700	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
600	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
500	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
400	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
300	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
200	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
100	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum

Barrels

900	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
800	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
700	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
600	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
500	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
400	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
300	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
200	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
100	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value ESP Water Supply Well

The basic equipment for an electric submersible pump water supply well includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flow lines - 1000'

Very Good

Barrels

4100	60695	61510	62325	63140	63955	64770	65585	66400	67215	68030	68845
3800	55965	56780	57595	58410	59225	60040	60855	61670	62485	63300	64115
3400	52040	52790	53540	54290	55040	55790	56540	57290	58040	58790	59540
2800	50960	51710	52460	53210	53960	54710	55460	56210	56960	57710	58460
2300	47185	47935	48685	49435	50185	50935	51685	52435	53185	53935	54685
1900	46280	47030	47780	48530	49280	50030	50780	51530	52280	53030	53780
1600	43490	44240	44990	45740	46490	47240	47990	48740	49490	50240	50990
1100	38640	39390	40140	40890	41640	42390	43140	43890	44640	45390	46140
800	34570	38320	39070	39820	40570	41320	42070	42820	43570	44320	45070
600	32410	36160	36910	37660	38410	39160	39910	40660	41410	42160	42910
350	31970	35720	36470	37220	37970	38720	39470	40220	40970	41720	42470
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

Average

Barrels

4100	40330	40900	41470	42040	42610	43180	43750	44320	44890	45460	46030
3800	35700	36270	36840	37410	37980	38550	39120	39690	40260	40830	41400
3400	32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2800	32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2300	29765	30290	30815	31340	31865	32390	32915	33440	33965	34490	35015
1900	27655	28180	28705	29230	29755	30280	30805	31330	31855	32380	32905
1600	25745	26270	26795	27320	27845	28370	28895	29420	29945	30470	30995
1100	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010	27535
800	19660	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010
600	18670	21295	21820	22345	22870	23395	23920	24445	24970	25495	26020
350	18150	20775	21300	21825	22350	22875	23400	23925	24450	24975	25500
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

Minimum

Barrels

4100	9485	9630	9775	9920	10065	10210	10355	10500	10645	10790	10935
3800	8965	9110	9255	9400	9545	9690	9835	9980	10125	10270	10415
3400	8250	8380	8510	8640	8770	8900	9030	9160	9290	9420	9550
2800	8040	8170	8300	8430	8560	8690	8820	8950	9080	9210	9340
2300	7450	7580	7710	7840	7970	8100	8230	8360	8490	8620	8750
1900	6930	7060	7190	7320	7450	7580	7710	7840	7970	8100	8230
1600	6460	6590	6720	6850	6980	7110	7240	7370	7500	7630	7760
1100	5580	5710	5840	5970	6100	6230	6360	6490	6620	6750	6880
800	4820	5470	5600	5730	5860	5990	6120	6250	6380	6510	6640
600	4690	5340	5470	5600	5730	5860	5990	6120	6250	6380	6510
350	4550	5200	5330	5460	5590	5720	5850	5980	6110	6240	6370
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Water Supply Well (Gas Engine)

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods to Depth
Wellhead	Rod Pump
Gas Engine	Flow lines - 1000'

Very Good

Barrels

900	89027	89986	93923									
800	89027	89986	91816	95585								
700	69041	89986	91816	95585								
600	61002	70552	91816	90325	97248							
500	61002	61828	72064	90325	91988	98910						
400	54562	61828	63104	73575	76748	93650	98923	100585				
300	45744	46696	55386	56550	66655	68054	95063	96725	101998			
200	41630	42540	43450	43320	44230	58878	60042	70853	72253	73652	101713	
100	29035	29900	38735	39600	40465	41330	46596	55346	65873	67272	76956	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

Average

Barrels

900	43293	43548	47336									
800	43293	43548	44413	48143								
700	36698	43548	44413	48143								
600	33904	37438	44413	44583	48949							
500	33904	33966	38178	44583	45389	49755						
400	28794	33966	34608	38918	40389	46195	50451	51258				
300	23174	23676	29038	29620	36059	36745	46481	47288	51544			
200	22025	22498	22972	22355	22829	30784	31366	38118	38804	39490	49706	
100	15458	15890	20553	20985	21418	21850	24146	27688	33974	34660	41086	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

Minimum

Barrels

900	11132	11191	12158									
800	11132	11191	11400	12355								
700	9498	11191	11400	12355								
600	8889	9678	11400	11465	12553							
500	8889	8907	9857	11465	11663	12750						
400	7619	8907	9076	10037	10413	11860	12918	13115				
300	6246	6384	7712	7867	9345	9515	11928	12125	13183			
200	5933	6060	6188	6045	6173	8176	8331	9854	10023	10193	12718	
100	4284	4400	5576	5693	5809	5925	6564	7316	8833	9003	10535	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Water Supply Well (Electric Motor)

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods to Depth
Wellhead	Rod Pump
Electric Motor	Flow lines - 1000'
Control Panel	

Very Good

Barrels

900	79967	81796	85733									
800	79967	81796	83626	87395								
700	62751	81796	83626	87395								
600	55892	64262	83626	83785	89058							
500	55892	57168	65774	83785	85448	90720						
400	50262	57168	58444	67285	70458	87110	92383	94045				
300	42164	43116	51806	52970	62355	63754	88773	90435	95708			
200	38080	38990	39900	40810	41720	55298	56462	66553	67953	69352	95423	
100	27455	28320	36225	37090	37955	38820	44086	51796	62323	63722	72656	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	36503	37368	41156									
800	36503	37368	38233	41963								
700	31148	37368	38233	41963								
600	29294	31888	38233	38513	42769							
500	29294	29936	32628	38513	39319	43575						
400	25084	29936	30578	33368	34839	40125	44381	45188				
300	19964	20466	25828	26410	32349	33035	40931	41738	45994			
200	18935	19408	19882	20355	20829	27574	28156	34408	35094	35780	44156	
100	13578	14010	18553	18985	19418	19850	22146	24598	30884	31570	37376	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	9442	9651	10618									
800	9442	9651	9860	10815								
700	8118	9651	9860	10815								
600	7739	8298	9860	9955	11013							
500	7739	7907	8477	9955	10153	11210						
400	6699	7907	8076	8657	9033	10350	11408	11605				
300	5446	5584	6912	7067	8425	8595	10548	10745	11803			
200	5163	5290	5418	5545	5673	7376	7531	8934	9103	9273	11338	
100	3814	3930	5076	5193	5309	5425	6064	6646	8063	8233	9615	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Progressive Cavity Coal Seams Gas Well without Tanks (Electric Motor)

The basic equipment for a progressive cavity coal seams gas well includes:

Progressive Cavity Pump	Sucker Rods to Depth
Progressive Cavity Electric Motor	Gas Meter Run with House
Wellhead	Flow lines - 5000'
Wellhead Drive	Miscellaneous Surface Equipment

Very Good

Barrels

900	64137	65966	66293								
800	64137	65966	67796	67955							
700	61911	65966	67796	67955							
600	60262	63422	67796	67955	69618						
500	60262	61538	64934	67955	69618	71280					
400	51902	53178	54454	58085	62968	64630	66293	67955			
300	49634	50586	53446	54610	60075	61474	66293	67955	69618		
200	49340	50250	51160	52070	54690	58648	59812	64273	65673	67072	72943
100	49025	49890	50755	51620	54195	55060	57056	60976	65673	67072	70376
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Average

Barrels

900	35943	36808	37146								
800	35943	36808	37673	37953							
700	35068	36808	37673	37953							
600	34384	35808	37673	37953	38759						
500	34384	35026	36548	37953	38759	39565					
400	29044	29686	30328	31948	34469	35275	36081	36888			
300	28064	28566	29788	30370	33149	33835	36081	36888	37694		
200	27865	28338	28812	29285	30809	32584	33166	35208	35894	36580	39306
100	27578	28010	28443	28875	30358	30790	32126	33748	35894	36580	38176
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Minimum

Barrels

900	9372	9581	9688								
800	9372	9581	9790	9885							
700	9168	9581	9790	9885							
600	9089	9348	9790	9885	10083						
500	9089	9257	9527	9885	10083	10280					
400	7759	7927	8096	8377	9093	9290	9488	9685			
300	7546	7684	7972	8127	8785	8955	9488	9685	11043		
200	7473	7600	7728	7855	8323	8776	8931	9294	10623	10793	11438
100	7394	7510	7626	7743	8199	8315	8714	9086	10623	10793	11135
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Plunger Lift Gas Well with Tanks

The basic equipment for a plunger lift gas well with oil storage tanks includes:

Wellhead with Lubricator
 Plunger Lift
 Production Unit
 300 Barrel Oil Storage Tanks with Stairway
 Flowlines - 600'

**Very Good
MCF**

850	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
750	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
650	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
550	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
450	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
350	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
250	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
150	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
60	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
MCF**

850	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
750	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
650	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
550	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
450	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
350	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
250	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
150	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
60	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
MCF**

850	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
750	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
650	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
550	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
450	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
350	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
250	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
60	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Plunger Lift Gas Well without Tanks

The basic equipment for a plunger lift gas well without oil storage tanks includes:

Wellhead with Lubricator
Plunger Lift
Production Unit

Flow lines - 1000'

Very Good

MCF

850	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
750	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
650	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
550	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
450	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
350	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
250	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
150	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
60	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average

MCF

850	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
750	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
650	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
550	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
450	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
350	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
250	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
150	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
60	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum

MCF

850	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
750	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
650	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
550	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
450	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
350	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
250	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
150	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
60	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Coal Seams Gas Well with Tanks

The basic equipment for a pumping coal seams gas well with water storage tanks includes:

Pumping Unit	Separator
Gas Engine	300 Barrel Water Storage Tanks with Stairway
Wellhead	Meter Run with House
Sucker Rods to Depth	Flow lines - 600'
Rod Pump	Filter Vessel

Very Good

Barrels

900	145907	146866	150803									
800	145907	146866	148696	152465								
700	125921	146866	148696	152465								
600	117882	127432	148696	147205	154128							
500	117882	118708	128944	147205	148868	155790						
400	111442	118708	119984	130455	133628	150530	155803	157465				
300	102624	103576	112266	113430	123535	124934	151943	153605	158878			
200	98510	99420	100330	100200	101110	115758	116922	127733	129133	130532	158593	
100	85915	86780	95615	96480	97345	98210	103476	112226	122753	124152	133836	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	67703	67958	71746									
800	67703	67958	68823	72553								
700	61108	67958	68823	72553								
600	58314	61848	68823	68993	73359							
500	58314	58376	62588	68993	69799	74165						
400	53204	58376	59018	63328	64799	70605	74861	75668				
300	47584	48086	53448	54030	60469	61155	70891	71698	75954			
200	46435	46908	47382	46765	47239	55194	55776	62528	63214	63900	74116	
100	39868	40300	44963	45395	45828	46260	48556	52098	58384	59070	65496	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	18402	18461	19428									
800	18402	18461	18670	19625								
700	16768	18461	18670	19625								
600	16159	16948	18670	18735	19823							
500	16159	16177	17127	18735	18933	20020						
400	14889	16177	16346	17307	17683	19130	20188	20385				
300	13516	13654	14982	15137	16615	16785	19198	19395	20453			
200	13203	13330	13458	13315	13443	15446	15601	17124	17293	17463	19988	
100	11554	11670	12846	12963	13079	13195	13834	14586	16103	16273	17805	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Coal Seams Gas Well without Tanks

The basic equipment for a pumping coal seams gas well without water storage tanks includes:

Pumping Unit	Separator
Gas Engine	Meter Run with House
Wellhead	Flow lines - 1000'
Sucker Rods to Depth	Filter Vessel
Rod Pump	

Very Good

Barrels

900	135387	136346	140283									
800	135387	136346	138176	141945								
700	115401	136346	138176	141945								
600	107362	116912	138176	136685	143608							
500	107362	108188	118424	136685	138348	145270						
400	100922	108188	109464	119935	123108	140010	145283	146945				
300	92104	93056	101746	102910	113015	114414	141423	143085	148358			
200	87990	88900	89810	89680	90590	105238	106402	117213	118613	120012	148073	
100	75395	76260	85095	85960	86825	87690	92956	101706	112233	113632	123316	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	62703	62958	66746									
800	62703	62958	63823	67553								
700	56108	62958	63823	67553								
600	53314	56848	63823	63993	68359							
500	53314	53376	57588	63993	64799	69165						
400	48204	53376	54018	58328	59799	65605	69861	70668				
300	42584	43086	48448	49030	55469	56155	65891	66698	70954			
200	41435	41908	42382	41765	42239	50194	50776	57528	58214	58900	69116	
100	34868	35300	39963	40395	40828	41260	43556	47098	53384	54070	60496	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	15922	15981	16948									
800	15922	15981	16190	17145								
700	14288	15981	16190	17145								
600	13679	14468	16190	16255	17343							
500	13679	13697	14647	16255	16453	17540						
400	12409	13697	13866	14827	15203	16650	17708	17905				
300	11036	11174	12502	12657	14135	14305	16718	16915	17973			
200	10723	10850	10978	10835	10963	12966	13121	14644	14813	14983	17508	
100	9074	9190	10366	10483	10599	10715	11354	12106	13623	13793	15325	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value ESP Oil Well with Tanks (Electric Motor)

The basic equipment for an ESP oil well with oil storage tanks includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flowlines - 600'
Heater/Treater	300 Barrel Oil Storage Tanks

Very Good**Barrels**

4100	83285	84100	84915	85730	86545	87360	88175	88990	89805	90620	91435
3800	78555	79370	80185	81000	81815	82630	83445	84260	85075	85890	86705
3400	74630	75380	76130	76880	77630	78380	79130	79880	80630	81380	82130
2800	73550	74300	75050	75800	76550	77300	78050	78800	79550	80300	81050
2300	69775	70525	71275	72025	72775	73525	74275	75025	75775	76525	77275
1900	68870	69620	70370	71120	71870	72620	73370	74120	74870	75620	76370
1600	66080	66830	67580	68330	69080	69830	70580	71330	72080	72830	73580
1100	61230	61980	62730	63480	64230	64980	65730	66480	67230	67980	68730
800	57160	60910	61660	62410	63160	63910	64660	65410	66160	66910	67660
600	52860	56610	57360	58110	58860	59610	60360	61110	61860	62610	63360
350	52420	56170	56920	57670	58420	59170	59920	60670	61420	62170	62920
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

Average**Barrels**

4100	51760	52330	52900	53470	54040	54610	55180	55750	56320	56890	57460
3800	47130	47700	48270	48840	49410	49980	50550	51120	51690	52260	52830
3400	44385	44910	45435	45960	46485	47010	47535	48060	48585	49110	49635
2800	44385	44910	45435	45960	46485	47010	47535	48060	48585	49110	49635
2300	41195	41720	42245	42770	43295	43820	44345	44870	45395	45920	46445
1900	39085	39610	40135	40660	41185	41710	42235	42760	43285	43810	44335
1600	37175	37700	38225	38750	39275	39800	40325	40850	41375	41900	42425
1100	33715	34240	34765	35290	35815	36340	36865	37390	37915	38440	38965
800	31090	33715	34240	34765	35290	35815	36340	36865	37390	37915	38440
600	29640	32265	32790	33315	33840	34365	34890	35415	35940	36465	36990
350	29120	31745	32270	32795	33320	33845	34370	34895	35420	35945	36470
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

Minimum**Barrels**

4100	13115	13260	13405	13550	13695	13840	13985	14130	14275	14420	14565
3800	12595	12740	12885	13030	13175	13320	13465	13610	13755	13900	14045
3400	11880	12010	12140	12270	12400	12530	12660	12790	12920	13050	13180
2800	11670	11800	11930	12060	12190	12320	12450	12580	12710	12840	12970
2300	11080	11210	11340	11470	11600	11730	11860	11990	12120	12250	12380
1900	10560	10690	10820	10950	11080	11210	11340	11470	11600	11730	11860
1600	10090	10220	10350	10480	10610	10740	10870	11000	11130	11260	11390
1100	9210	9340	9470	9600	9730	9860	9990	10120	10250	10380	10510
800	8450	9100	9230	9360	9490	9620	9750	9880	10010	10140	10270
600	8210	8860	8990	9120	9250	9380	9510	9640	9770	9900	10030
350	8070	8720	8850	8980	9110	9240	9370	9500	9630	9760	9890
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

15-AS-DPT

ARL VOL 5

2-89 Rev 1-06

GREEN RIVER BASIN BASIC EQUIPMENT LISTS

Total Value ESP Oil Well without Tanks (Electric Motor)

The basic equipment for an ESP oil well without oil storage tanks includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flowlines - 1000'

Very Good**Barrels**

4100		64215	65030	65845	66660	67475	68290	69105	69920	70735	71550	72365
3800		59485	60300	61115	61930	62745	63560	64375	65190	66005	66820	67635
3400		55560	56310	57060	57810	58560	59310	60060	60810	61560	62310	63060
2800		54480	55230	55980	56730	57480	58230	58980	59730	60480	61230	61980
2300		50705	51455	52205	52955	53705	54455	55205	55955	56705	57455	58205
1900		49800	50550	51300	52050	52800	53550	54300	55050	55800	56550	57300
1600		47010	47760	48510	49260	50010	50760	51510	52260	53010	53760	54510
1100		42160	42910	43660	44410	45160	45910	46660	47410	48160	48910	49660
800	38090	41840	42590	43340	44090	44840	45590	46340	47090	47840	48590	49340
600	35930	39680	40430	41180	41930	42680	43430	44180	44930	45680	46430	47180
350	35490	39240	39990	40740	41490	42240	42990	43740	44490	45240	45990	46740
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
												Depth

Average**Barrels**

4100		41300	41870	42440	43010	43580	44150	44720	45290	45860	46430	47000
3800		36670	37240	37810	38380	38950	39520	40090	40660	41230	41800	42370
3400		33925	34450	34975	35500	36025	36550	37075	37600	38125	38650	39175
2800		33925	34450	34975	35500	36025	36550	37075	37600	38125	38650	39175
2300		30735	31260	31785	32310	32835	33360	33885	34410	34935	35460	35985
1900		28625	29150	29675	30200	30725	31250	31775	32300	32825	33350	33875
1600		26715	27240	27765	28290	28815	29340	29865	30390	30915	31440	31965
1100		23255	23780	24305	24830	25355	25880	26405	26930	27455	27980	28505
800	20630	23255	23780	24305	24830	25355	25880	26405	26930	27455	27980	28505
600	19640	22265	22790	23315	23840	24365	24890	25415	25940	26465	26990	27515
350	19120	21745	22270	22795	23320	23845	24370	24895	25420	25945	26470	26995
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
												Depth

Minimum**Barrels**

4100		9885	10030	10175	10320	10465	10610	10755	10900	11045	11190	11335
3800		9365	9510	9655	9800	9945	10090	10235	10380	10525	10670	10815
3400		8650	8780	8910	9040	9170	9300	9430	9560	9690	9820	9950
2800		8440	8570	8700	8830	8960	9090	9220	9350	9480	9610	9740
2300		7850	7980	8110	8240	8370	8500	8630	8760	8890	9020	9150
1900		7330	7460	7590	7720	7850	7980	8110	8240	8370	8500	8630
1600		6860	6990	7120	7250	7380	7510	7640	7770	7900	8030	8160
1100		5980	6110	6240	6370	6500	6630	6760	6890	7020	7150	7280
800	5220	5870	6000	6130	6260	6390	6520	6650	6780	6910	7040	7170
600	5090	5740	5870	6000	6130	6260	6390	6520	6650	6780	6910	7040
350	4950	5600	5730	5860	5990	6120	6250	6380	6510	6640	6770	6900
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
												Depth

15-AS-DPT

ARL VOL 5

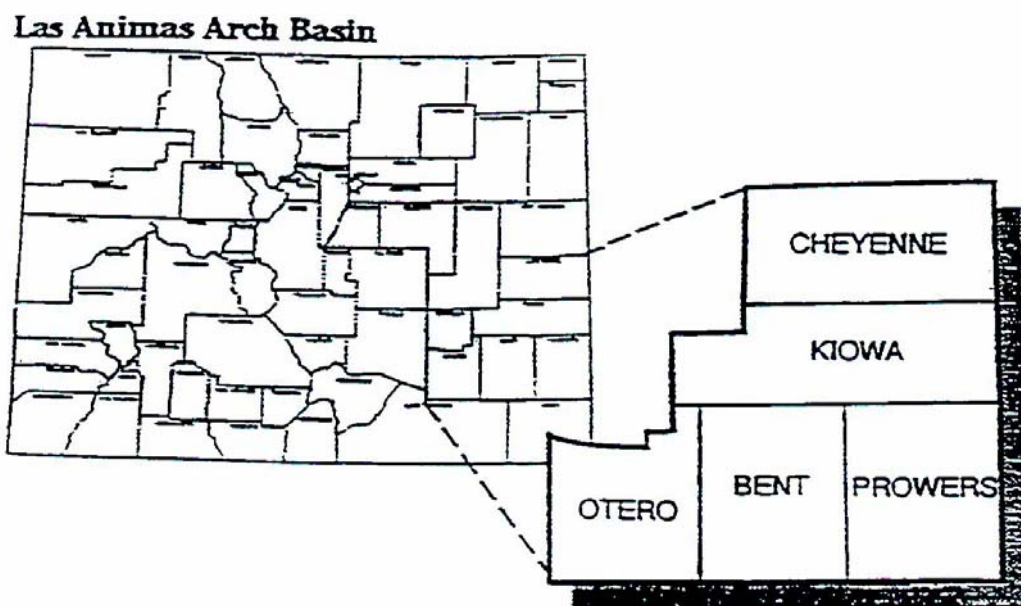
2-89 Rev 1-06

LAS ANIMAS ARCH BASIN

The Las Animas Arch Basin trends to the southwest from the Kansas border in Cheyenne County. It includes the following counties:

**Bent
Cheyenne
Kiowa**

**Otero
Prowers**



LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well with Tanks (Gas Engine)

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Chemical Pump	Rod Pump
Gas Engine	400 Barrel Oil Storage Tanks with Stairway
Wellhead	Flow lines - 600'
Heater Treater	210 Barrel Water Storage Tank

Very Good

Barrels

900	123037	123996	127933								
800	123037	123996	125826	129595							
700	103051	123996	125826	129595							
600	92872	102422	123686	122195	129118						
500	92872	93698	103934	122195	123858	130780					
400	86432	93698	94974	105445	108618	125520	130793	132455			
300	77614	78566	87256	88420	98525	99924	126933	128595	133868		
200	73500	74410	75320	75190	76100	90748	91912	102723	104123	105522	133583
100	60905	61770	70605	71470	72335	73200	78466	87216	97743	99142	108826
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Average

Barrels

900	59213	59468	63256								
800	59213	59468	60333	64063							
700	52618	59468	60333	64063							
600	49364	52898	59873	60043	64409						
500	49364	49426	53638	60043	60849	65215					
400	44254	49426	50068	54378	55849	61655	65911	66718			
300	38634	39136	44498	45080	51519	52205	61941	62748	67004		
200	37485	37958	38432	37815	38289	46244	46826	53578	54264	54950	65166
100	30918	31350	36013	36445	36878	37310	39606	43148	49434	50120	56546
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Minimum

Barrels

900	17032	17091	18058								
800	17032	17091	17300	18255							
700	15398	17091	17300	18255							
600	14679	15468	17190	17255	18343						
500	14679	14697	15647	17255	17453	18540					
400	13409	14697	14866	15827	16203	17650	18708	18905			
300	12036	12174	13502	13657	15135	15305	17718	17915	18973		
200	11723	11850	11978	11835	11963	13966	14121	15644	15813	15983	18508
100	10074	10190	11366	11483	11599	11715	12354	13106	14623	14793	16325
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well with Tanks (Electric Motor)

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Chemical Pump	Rod Pump
Electric Motor	400 Barrel Oil Storage Tanks with Stairway
Wellhead	Flow lines - 600'
Heater Treater	210 Barrel Water Storage Tank
Control Panel	

Very Good

Barrels

900	113977	115806	119743								
800	113977	115806	117636	121405							
700	96761	115806	117636	121405							
600	87762	96132	115496	115655	120928						
500	87762	89038	97644	115655	117318	122590					
400	82132	89038	90314	99155	102328	118980	124253	125915			
300	74034	74986	83676	84840	94225	95624	120643	122305	127578		
200	69950	70860	71770	72680	73590	87168	88332	98423	99823	101222	127293
100	59325	60190	68095	68960	69825	70690	75956	83666	94193	95592	104526
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Average

Barrels

900	52423	53288	57076								
800	52423	53288	54153	57883							
700	47068	53288	54153	57883							
600	44754	47348	53693	53973	58229						
500	44754	45396	48088	53973	54779	59035					
400	40544	45396	46038	48828	50299	55585	59841	60648			
300	35424	35926	41288	41870	47809	48495	56391	57198	61454		
200	34395	34868	35342	35815	36289	43034	43616	49868	50554	51240	59616
100	29038	29470	34013	34445	34878	35310	37606	40058	46344	47030	52836
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Minimum

Barrels

900	15342	15551	16518								
800	15342	15551	15760	16715							
700	14018	15551	15760	16715							
600	13529	14088	15650	15745	16803						
500	13529	13697	14267	15745	15943	17000					
400	12489	13697	13866	14447	14823	16140	17198	17395			
300	11236	11374	12702	12857	14215	14385	16338	16535	17593		
200	10953	11080	11208	11335	11463	13166	13321	14724	14893	15063	17128
100	9604	9720	10866	10983	11099	11215	11854	12436	13853	14023	15405
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well without Tanks (Gas Engine)

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Chemical Pump	Rod Pump
Gas Engine	Flow lines - 1000'
Wellhead	

Very Good

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	86497	87456	91393								
800	86497	87456	89286	93055							
700	66511	87456	89286	93055							
600	58472	68022	89286	87795	94718						
500	58472	59298	69534	87795	89458	96380					
400	52032	59298	60574	71045	74218	91120	96393	98055			
300	43214	44166	52856	54020	64125	65524	92533	94195	99468		
200	39100	40010	40920	40790	41700	56348	57512	68323	69723	71122	99183
100	26505	27370	36205	37070	37935	38800	44066	52816	63343	64742	74426

Depth

Average

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	42813	43068	46856								
800	42813	43068	43933	47663							
700	36218	43068	43933	47663							
600	33424	36958	43933	44103	48469						
500	33424	33486	37698	44103	44909	49275					
400	28314	33486	34128	38438	39909	45715	49971	50778			
300	22694	23196	28558	29140	35579	36265	46001	46808	51064		
200	21545	22018	22492	21875	22349	30304	30886	37638	38324	39010	49226
100	14978	15410	20073	20505	20938	21370	23666	27208	33494	34180	40606

Depth

Minimum

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	10732	10791	11758								
800	10732	10791	11000	11955							
700	9098	10791	11000	11955							
600	8489	9278	11000	11065	12153						
500	8489	8507	9457	11065	11263	12350					
400	7219	8507	8676	9637	10013	11460	12518	12715			
300	5846	5984	7312	7467	8945	9115	11528	11725	12783		
200	5533	5660	5788	5645	5773	7776	7931	9454	9623	9793	12318
100	3884	4000	5176	5293	5409	5525	6164	6916	8433	8603	10135

Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well without Tanks (Electric Motor)

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Chemical Pump	Rod Pump
Electric Motor	Flow lines - 1000'
Wellhead	Control Panel

Very Good

Barrels

900	77437	79266	83203								
800	77437	79266	81096	84865							
700	60221	79266	81096	84865							
600	53362	61732	81096	81255	86528						
500	53362	54638	63244	81255	82918	88190					
400	47732	54638	55914	64755	67928	84580	89853	91515			
300	39634	40586	49276	50440	59825	61224	86243	87905	93178		
200	35550	36460	37370	38280	39190	52768	53932	64023	65423	66822	92893
100	24925	25790	33695	34560	35425	36290	41556	49266	59793	61192	70126
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Average

Barrels

900	36023	36888	40676								
800	36023	36888	37753	41483							
700	30668	36888	37753	41483							
600	28814	31408	37753	38033	42289						
500	28814	29456	32148	38033	38839	43095					
400	24604	29456	30098	32888	34359	39645	43901	44708			
300	19484	19986	25348	25930	31869	32555	40451	41258	45514		
200	18455	18928	19402	19875	20349	27094	27676	33928	34614	35300	43676
100	13098	13530	18073	18505	18938	19370	21666	24118	30404	31090	36896
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Minimum

Barrels

900	9262	9471	10438								
800	9262	9471	9680	10635							
700	7938	9471	9680	10635							
600	7559	8118	9680	9775	10833						
500	7559	7727	8297	9775	9973	11030					
400	6519	7727	7896	8477	8853	10170	11228	11425			
300	5266	5404	6732	6887	8245	8415	10368	10565	11623		
200	4983	5110	5238	5365	5493	7196	7351	8754	8923	9093	11158
100	3634	3750	4896	5013	5129	5245	5884	6466	7883	8053	9435
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Oil Well with Tanks

The basic equipment for a flowing oil well with oil storage tanks includes:

Wellhead
 Heater Treater
 400 Barrel Oil Storage Tanks with Stairway
 210 Barrel Water Storage Tank
 Flow lines - 600'

Very Good**Barrels**

900	40930	40930	40930	40930	40930	40930	40930	40930	40930	40930	40930
800	40930	40930	40930	40930	40930	40930	40930	40930	40930	40930	40930
700	40930	40930	40930	40930	40930	40930	40930	40930	40930	40930	40930
600	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790
500	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790
400	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790
300	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790
200	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790
100	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790	38790
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Average**Barrels**

900	19350	19350	19350	19350	19350	19350	19350	19350	19350	19350	19350
800	19350	19350	19350	19350	19350	19350	19350	19350	19350	19350	19350
700	19350	19350	19350	19350	19350	19350	19350	19350	19350	19350	19350
600	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890
500	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890
400	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890
300	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890
200	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890
100	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890	18890
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Minimum**Barrels**

900	6830	6830	6830	6830	6830	6830	6830	6830	6830	6830	6830
800	6830	6830	6830	6830	6830	6830	6830	6830	6830	6830	6830
700	6830	6830	6830	6830	6830	6830	6830	6830	6830	6830	6830
600	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720
500	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720
400	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720
300	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720
200	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720
100	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720	6720
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Oil Well without Tanks

The basic equipment for a flowing oil well without oil storage tanks includes:

Wellhead
Flow lines - 1000'

Very Good**Barrels**

900	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
800	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
700	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
600	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
500	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
400	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
300	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
200	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
100	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Average****Barrels**

900	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
800	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
700	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
600	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
500	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
400	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
300	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
200	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
100	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Minimum****Barrels**

900	750	750	750	750	750	750	750	750	750	750	750
800	750	750	750	750	750	750	750	750	750	750	750
700	750	750	750	750	750	750	750	750	750	750	750
600	750	750	750	750	750	750	750	750	750	750	750
500	750	750	750	750	750	750	750	750	750	750	750
400	750	750	750	750	750	750	750	750	750	750	750
300	750	750	750	750	750	750	750	750	750	750	750
200	750	750	750	750	750	750	750	750	750	750	750
100	750	750	750	750	750	750	750	750	750	750	750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well with Tank (Gas Engine)

The basic equipment for a pumping gas well with oil storage tank includes:

Pumping Unit	Rod Pump
Chemical Pump	Production Unit
Gas Engine	400 Barrel Oil Storage Tank with Stairway
Wellhead	210 Barrel Water Storage Tank
Sucker Rods to Depth	Flow lines - 600'

Very Good

Barrels

900	109697	110656	114593									
800	109697	110656	112486	116255								
700	89711	110656	112486	116255								
600	81672	91222	112486	110995	117918							
500	81672	82498	92734	110995	112658	119580						
400	75232	82498	83774	94245	97418	114320	119593	121255				
300	66414	67366	76056	77220	87325	88724	115733	117395	122668			
200	62300	63210	64120	63990	64900	79548	80712	91523	92923	94322	122383	
100	49705	50570	59405	60270	61135	62000	67266	76016	86543	87942	97626	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	53243	53498	57286									
800	53243	53498	54363	58093								
700	46648	53498	54363	58093								
600	43854	47388	54363	54533	58899							
500	43854	43916	48128	54533	55339	59705						
400	38744	43916	44558	48868	50339	56145	60401	61208				
300	33124	33626	38988	39570	46009	46695	56431	57238	61494			
200	31975	32448	32922	32305	32779	40734	41316	48068	48754	49440	59656	
100	25408	25840	30503	30935	31368	31800	34096	37638	43924	44610	51036	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	14862	14921	15888									
800	14862	14921	15130	16085								
700	13228	14921	15130	16085								
600	12619	13408	15130	15195	16283							
500	12619	12637	13587	15195	15393	16480						
400	11349	12637	12806	13767	14143	15590	16648	16845				
300	9976	10114	11442	11597	13075	13245	15658	15855	16913			
200	9663	9790	9918	9775	9903	11906	12061	13584	13753	13923	16448	
100	8014	8130	9306	9423	9539	9655	10294	11046	12563	12733	14265	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well without Tank (Gas Engine)

The basic equipment for a pumping gas well without oil storage tank includes:

Pumping Unit	Rod Pump
Chemical Pump	Sucker Rods to Depth
Gas Engine	Flow lines - 1000'
Wellhead	

Very Good

Barrels

900	86497	87456	91393								
800	86497	87456	89286	93055							
700	66511	87456	89286	93055							
600	58472	68022	89286	87795	94718						
500	58472	59298	69534	87795	89458	96380					
400	52032	59298	60574	71045	74218	91120	96393	98055			
300	43214	44166	52856	54020	64125	65524	92533	94195	99468		
200	39100	40010	40920	40790	41700	56348	57512	68323	69723	71122	99183
100	26505	27370	36205	37070	37935	38800	44066	52816	63343	64742	74426
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Average

Barrels

900	42813	43068	46856								
800	42813	43068	43933	47663							
700	36218	43068	43933	47663							
600	33424	36958	43933	44103	48469						
500	33424	33486	37698	44103	44909	49275					
400	28314	33486	34128	38438	39909	45715	49971	50778			
300	22694	23196	28558	29140	35579	36265	46001	46808	51064		
200	21545	22018	22492	21875	22349	30304	30886	37638	38324	39010	49226
100	14978	15410	20073	20505	20938	21370	23666	27208	33494	34180	40606
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Minimum

Barrels

900	10952	11011	11978								
800	10952	11011	11220	12175							
700	9318	11011	11220	12175							
600	8709	9498	11220	11285	12373						
500	8709	8727	9677	11285	11483	12570					
400	7439	8727	8896	9857	10233	11680	12738	12935			
300	6066	6204	7532	7687	9165	9335	11748	11945	13003		
200	5753	5880	6008	5865	5993	7996	8151	9674	9843	10013	12538
100	4104	4220	5396	5513	5629	5745	6384	7136	8653	8823	10355
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well with Tanks

The basic equipment for a flowing gas well with oil storage tanks includes:

Wellhead
 Production Unit
 400 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

**Very Good
MCF**

850	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040
750	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040
650	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040
550	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040
450	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040
350	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040
250	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040
150	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040
60	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040	18040
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
MCF**

850	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050
750	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050
650	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050
550	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050
450	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050
350	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050
250	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050
150	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050
60	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050	10050
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
MCF**

850	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160
750	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160
650	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160
550	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160
450	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160
350	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160
250	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160
150	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160
60	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160	3160
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well without Tanks

The basic equipment for a flowing gas well without oil storage tanks includes:

Wellhead
Production Unit
Flow lines - 1000'

**Very Good
MCF**

850	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
750	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
650	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
550	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
450	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
350	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
250	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
150	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
60	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040	15040
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
MCF**

850	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
750	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
650	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
550	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
450	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
350	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
250	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
150	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
60	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710	8710
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
MCF**

850	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
750	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
650	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
550	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
450	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
350	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
250	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
150	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
60	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180	2180
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well without Tanks or Production Unit

The basic equipment for a flowing gas well without tanks or production unit includes:

Wellhead
Flow lines - 1000'

**Very Good
MCF**

850	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
750	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
650	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
550	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
450	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
350	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
250	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
150	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
60	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Average
MCF**

850	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
750	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
650	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
550	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
450	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
350	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
250	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
150	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
60	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Minimum
MCF**

850	750	750	750	750	750	750	750	750	750	750	750
750	750	750	750	750	750	750	750	750	750	750	750
650	750	750	750	750	750	750	750	750	750	750	750
550	750	750	750	750	750	750	750	750	750	750	750
450	750	750	750	750	750	750	750	750	750	750	750
350	750	750	750	750	750	750	750	750	750	750	750
250	750	750	750	750	750	750	750	750	750	750	750
150	750	750	750	750	750	750	750	750	750	750	750
60	750	750	750	750	750	750	750	750	750	750	750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS**Common Tank Battery**

The basic equipment for a common tank battery includes:

400 Barrel Oil Storage Tanks with Stairway

Heater Treater

Recycle Pump

Separators

Manifolds and Headers

Very Good

Tanks

10	96530	110970	115780	125410	130220	135030	149470	154280
9	86980	101420	106230	115860	120670	125480	139920	144730
8	77430	91870	96680	106310	111120	115930	130370	135180
7	67880	82320	87130	96760	101570	106380	120820	125630
6	58330	70630	75440	82930	87740	92550	104850	109660
5	48780	61080	65890	73380	78190	83000	95300	100110
4	39230	51530	56340	63830	68640	73450	85750	90560
3	29680	41980	46790	54280	59090	63900	76200	81010
2	20130	32430	37240	44730	49540	54350	66650	71460
1	9550	22880	27690	35180	39990	44800	57100	61910

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	5890	For Each Skimming Tank	Add	6060
For Each Additional Separator	Add	4810			
For Each Additional Heater/Treater	Add	14440			

Average

Tanks

10	33940	42340	44670	50740	53070	55400	63800	66130
9	30610	39010	41340	47410	49740	52070	60470	62800
8	27280	35680	38010	44080	46410	48740	57140	59470
7	23950	32350	34680	40750	43080	45410	53810	56140
6	20620	28560	30890	36500	38830	41160	49100	51430
5	17290	25230	27560	33170	35500	37830	45770	48100
4	13960	21900	24230	29840	32170	34500	42440	44770
3	10630	18570	20900	26510	28840	31170	39110	41440
2	7300	15240	17570	23180	25510	27840	35780	38110
1	3330	11910	14240	19850	22180	24510	32450	34780

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	2940	For Each Skimming Tank	Add	3330
For Each Additional Separator	Add	2330			
For Each Additional Heater/Treater	Add	8400			

Minimum

Tanks

10	15160	17260	17840	19360	19940	20520	22620	23200
9	13660	15760	16340	17860	18440	19020	21120	21700
8	12160	14260	14840	16360	16940	17520	19620	20200
7	10660	12760	13340	14860	15440	16020	18120	18700
6	9160	11150	11730	13140	13720	14300	16290	16870
5	7660	9650	10230	11640	12220	12800	14790	15370
4	6160	8150	8730	10140	10720	11300	13290	13870
3	4660	6650	7230	8640	9220	9800	11790	12370
2	3160	5150	5730	7140	7720	8300	10290	10870
1	1500	3650	4230	5640	6220	6800	8790	9370

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separators	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	--	-----------------------	--	--	--	--

For Each Additional Tank	Add	1350	For Each Skimming Tank	Add	1200
For Each Additional Separator	Add	580			
For Each Additional Heater/Treater	Add	2100			

Total Value Water Injection Well / Water Disposal Well

The basic equipment for a water injection well includes:

Wellhead
Injection lines - 1000'

Very Good**Barrels**

900	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
800	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
700	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
600	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
500	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
400	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
300	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
200	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
100	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390	4390
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Average****Barrels**

900	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
800	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
700	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
600	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
500	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
400	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
300	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
200	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
100	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Minimum****Barrels**

900	750	750	750	750	750	750	750	750	750	750	750
800	750	750	750	750	750	750	750	750	750	750	750
700	750	750	750	750	750	750	750	750	750	750	750
600	750	750	750	750	750	750	750	750	750	750	750
500	750	750	750	750	750	750	750	750	750	750	750
400	750	750	750	750	750	750	750	750	750	750	750
300	750	750	750	750	750	750	750	750	750	750	750
200	750	750	750	750	750	750	750	750	750	750	750
100	750	750	750	750	750	750	750	750	750	750	750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value ESP Water Supply Well

The basic equipment for an electric submersible pump water supply well includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flow lines - 1000'

Very Good**Barrels**

4100	60695	61510	62325	63140	63955	64770	65585	66400	67215	68030	68845
3800	55965	56780	57595	58410	59225	60040	60855	61670	62485	63300	64115
3400	52040	52790	53540	54290	55040	55790	56540	57290	58040	58790	59540
2800	50960	51710	52460	53210	53960	54710	55460	56210	56960	57710	58460
2300	47185	47935	48685	49435	50185	50935	51685	52435	53185	53935	54685
1900	46280	47030	47780	48530	49280	50030	50780	51530	52280	53030	53780
1600	43490	44240	44990	45740	46490	47240	47990	48740	49490	50240	50990
1100	38640	39390	40140	40890	41640	42390	43140	43890	44640	45390	46140
800	34570	38320	39070	39820	40570	41320	42070	42820	43570	44320	45070
600	32410	36160	36910	37660	38410	39160	39910	40660	41410	42160	42910
350	31970	35720	36470	37220	37970	38720	39470	40220	40970	41720	42470
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

Average**Barrels**

4100	40330	40900	41470	42040	42610	43180	43750	44320	44890	45460	46030
3800	35700	36270	36840	37410	37980	38550	39120	39690	40260	40830	41400
3400	32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2800	32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2300	29765	30290	30815	31340	31865	32390	32915	33440	33965	34490	35015
1900	27655	28180	28705	29230	29755	30280	30805	31330	31855	32380	32905
1600	25745	26270	26795	27320	27845	28370	28895	29420	29945	30470	30995
1100	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010	27535
800	19660	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010
600	18670	21295	21820	22345	22870	23395	23920	24445	24970	25495	26020
350	18150	20775	21300	21825	22350	22875	23400	23925	24450	24975	25500
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

Minimum**Barrels**

4100	9485	9630	9775	9920	10065	10210	10355	10500	10645	10790	10935
3800	8965	9110	9255	9400	9545	9690	9835	9980	10125	10270	10415
3400	8250	8380	8510	8640	8770	8900	9030	9160	9290	9420	9550
2800	8040	8170	8300	8430	8560	8690	8820	8950	9080	9210	9340
2300	7450	7580	7710	7840	7970	8100	8230	8360	8490	8620	8750
1900	6930	7060	7190	7320	7450	7580	7710	7840	7970	8100	8230
1600	6460	6590	6720	6850	6980	7110	7240	7370	7500	7630	7760
1100	5580	5710	5840	5970	6100	6230	6360	6490	6620	6750	6880
800	4820	5470	5600	5730	5860	5990	6120	6250	6380	6510	6640
600	4690	5340	5470	5600	5730	5860	5990	6120	6250	6380	6510
350	4550	5200	5330	5460	5590	5720	5850	5980	6110	6240	6370
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
											8500
											Depth

LAS ANIMAS ARCH BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Water Supply Well (Gas Engine)

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods to Depth
Wellhead	Rod Pump
Gas Engine	Flow lines - 1000'

Very Good

Barrels

900	85507	86466	90403									
800	85507	86466	88296	92065								
700	65521	86466	88296	92065								
600	57482	67032	88296	86805	93728							
500	57482	58308	68544	86805	88468	95390						
400	51042	58308	59584	70055	73228	90130	95403	97065				
300	42224	43176	51866	53030	63135	64534	91543	93205	98478			
200	38110	39020	39930	39800	40710	55358	56522	67333	68733	70132	98193	
100	25515	26380	35215	36080	36945	37810	43076	51826	62353	63752	73436	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	42323	42578	46366									
800	42323	42578	43443	47173								
700	35728	42578	43443	47173								
600	32934	36468	43443	43613	47979							
500	32934	32996	37208	43613	44419	48785						
400	27824	32996	33638	37948	39419	45225	49481	50288				
300	22204	22706	28068	28650	35089	35775	45511	46318	50574			
200	21055	21528	22002	21385	21859	29814	30396	37148	37834	38520	48736	
100	14488	14920	19583	20015	20448	20880	23176	26718	33004	33690	40116	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	10732	10791	11758									
800	10732	10791	11000	11955								
700	9098	10791	11000	11955								
600	8489	9278	11000	11065	12153							
500	8489	8507	9457	11065	11263	12350						
400	7219	8507	8676	9637	10013	11460	12518	12715				
300	5846	5984	7312	7467	8945	9115	11528	11725	12783			
200	5533	5660	5788	5645	5773	7776	7931	9454	9623	9793	12318	
100	3884	4000	5176	5293	5409	5525	6164	6916	8433	8603	10135	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Total Value Pumping Water Supply Well (Electric Motor)

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods to Depth
Wellhead	Rod Pump
Electric Motor	Flow lines - 1000'
Control Panel	

Very Good

Barrels

900	76447	78276	82213								
800	76447	78276	80106	83875							
700	59231	78276	80106	83875							
600	52372	60742	80106	80265	85538						
500	52372	53648	62254	80265	81928	87200					
400	46742	53648	54924	63765	66938	83590	88863	90525			
300	38644	39596	48286	49450	58835	60234	85253	86915	92188		
200	34560	35470	36380	37290	38200	51778	52942	63033	64433	65832	91903
100	23935	24800	32705	33570	34435	35300	40566	48276	58803	60202	69136
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Average

Barrels

900	35533	36398	40186								
800	35533	36398	37263	40993							
700	30178	36398	37263	40993							
600	28324	30918	37263	37543	41799						
500	28324	28966	31658	37543	38349	42605					
400	24114	28966	29608	32398	33869	39155	43411	44218			
300	18994	19496	24858	25440	31379	32065	39961	40768	45024		
200	17965	18438	18912	19385	19859	26604	27186	33438	34124	34810	43186
100	12608	13040	17583	18015	18448	18880	21176	23628	29914	30600	36406
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Minimum

Barrels

900	9042	9251	10218								
800	9042	9251	9460	10415							
700	7718	9251	9460	10415							
600	7339	7898	9460	9555	10613						
500	7339	7507	8077	9555	9753	10810					
400	6299	7507	7676	8257	8633	9950	11008	11205			
300	5046	5184	6512	6667	8025	8195	10148	10345	11403		
200	4763	4890	5018	5145	5273	6976	7131	8534	8703	8873	10938
100	3414	3530	4676	4793	4909	5025	5664	6246	7663	7833	9215
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

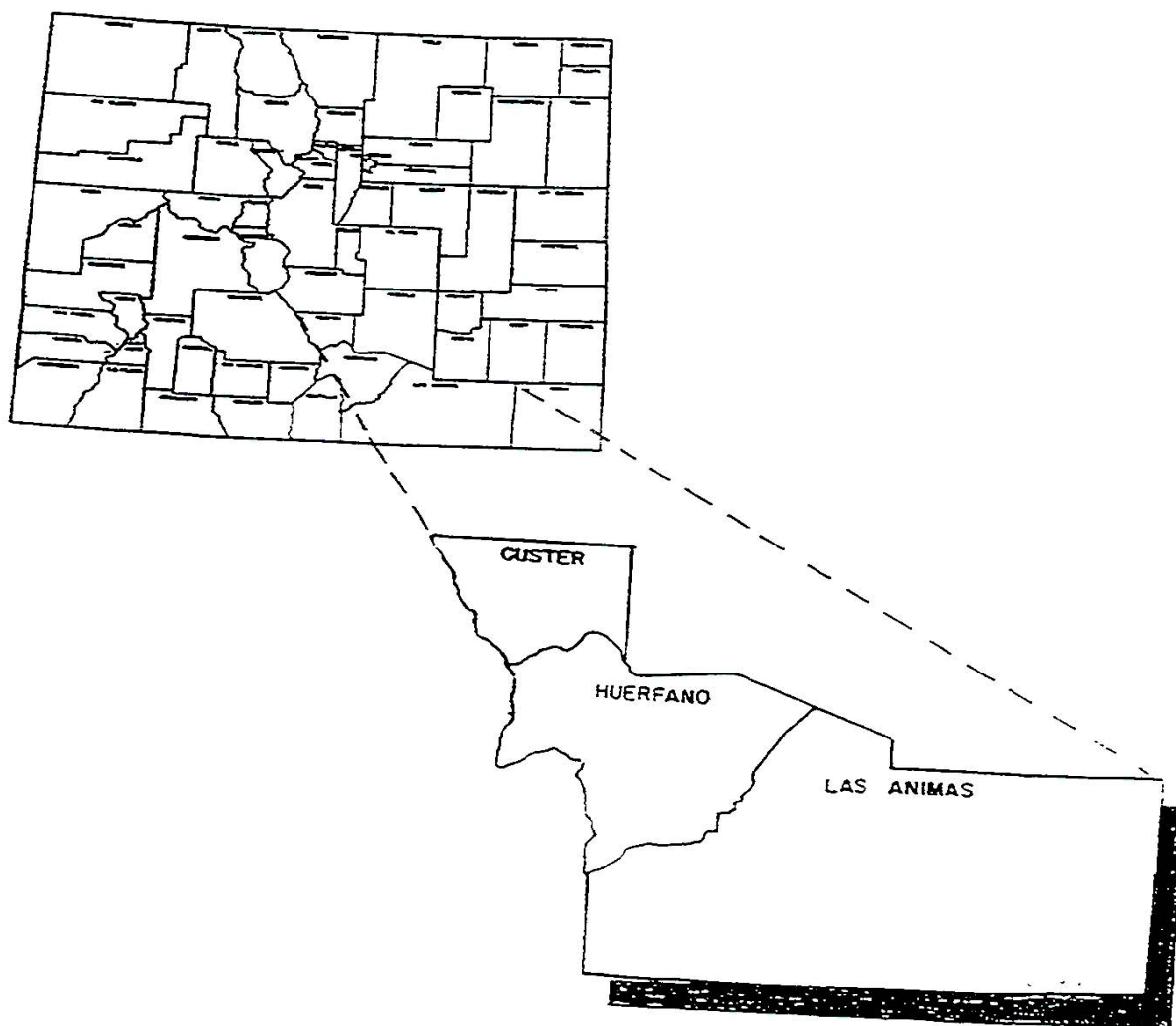
This page left blank intentionally.

LAS VEGAS - RATON BASIN

The Las Vegas - Raton Basin is located in the south central area of the state. It includes the following counties:

Custer
Huerfano
Las Animas

Las Vegas – Raton Basin



LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Coal Seams Gas Well with Tanks (Gas Engine)

The basic equipment for a pumping coal seams gas well with water storage tanks includes:

Pumping Unit	Separator
Gas Engine	400 Barrel Water Storage Tanks with Stairway
Wellhead	Flow lines - 600'
Sucker Rods to Depth	Meter Run with House
Rod Pump	

**Very Good
Barrels**

900	101180	103130	105080	107030	108980	110930
800	101180	103130	105080	107030	108980	110930
700	83420	85370	87320	89270	91220	93170
600	77030	78980	80930	82880	84830	86780
500	77030	78980	80930	82880	84830	86780
400	70240	71840	73440	75040	76640	78240
300	63690	65290	66890	68490	70090	71690
200	59870	61470	63070	64670	66270	67870
100	47590	49190	50790	52390	53990	55590
	500	1000	1500	2000	2500	3000

Depth

**Average
Barrels**

900	47425	48350	49275	50200	51125	52050
800	47425	48350	49275	50200	51125	52050
700	41705	42630	43555	44480	45405	46330
600	39595	40520	41445	42370	43295	44220
500	39595	40520	41445	42370	43295	44220
400	34310	35060	35810	36560	37310	38060
300	29670	30420	31170	31920	32670	33420
200	28720	29470	30220	30970	31720	32470
100	22440	23190	23940	24690	25440	26190
	500	1000	1500	2000	2500	3000

Depth

**Minimum
Barrels**

900	13460	13660	13860	14060	14260	14460
800	13460	13660	13860	14060	14260	14460
700	12030	12230	12430	12630	12830	13030
600	11500	11700	11900	12100	12300	12500
500	11500	11700	11900	12100	12300	12500
400	10220	10410	10600	10790	10980	11170
300	9060	9250	9440	9630	9820	10010
200	8820	9010	9200	9390	9580	9770
100	7250	7440	7630	7820	8010	8200
	500	1000	1500	2000	2500	3000

Depth

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Coal Seams Gas Well without Tanks (Gas Engine)

The basic equipment for a pumping coal seams gas well without water storage tanks includes:

Pumping Unit	Rod Pump
Gas Engine	Separator
Wellhead	Flow lines - 1000'
Sucker Rods to Depth	Meter Run with House

Very Good

Barrels

900	83340	85290	87240	89190	91140	93090
800	83340	85290	87240	89190	91140	93090
700	65580	67530	69480	71430	73380	75330
600	59190	61140	63090	65040	66990	68940
500	59190	61140	63090	65040	66990	68940
400	52400	54000	55600	57200	58800	60400
300	45850	47450	49050	50650	52250	53850
200	42030	43630	45230	46830	48430	50030
100	29750	31350	32950	34550	36150	37750
	500	1000	1500	2000	2500	3000
	Depth					

Average

Barrels

900	41645	42570	43495	44420	45345	46270
800	41645	42570	43495	44420	45345	46270
700	35925	36850	37775	38700	39625	40550
600	33815	34740	35665	36590	37515	38440
500	33815	34740	35665	36590	37515	38440
400	28530	29280	30030	30780	31530	32280
300	23890	24640	25390	26140	26890	27640
200	22940	23690	24440	25190	25940	26690
100	16660	17410	18160	18910	19660	20410
	500	1000	1500	2000	2500	3000
	Depth					

Minimum

Barrels

900	10680	10880	11080	11280	11480	11680
800	10680	10880	11080	11280	11480	11680
700	9250	9450	9650	9850	10050	10250
600	8720	8920	9120	9320	9520	9720
500	8720	8920	9120	9320	9520	9720
400	7440	7630	7820	8010	8200	8390
300	6280	6470	6660	6850	7040	7230
200	6040	6230	6420	6610	6800	6990
100	4470	4660	4850	5040	5230	5420
	500	1000	1500	2000	2500	3000
	Depth					

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Coal Seams Gas Well without Tanks (Electric Motor)

The basic equipment for a pumping coal seams gas well without water storage tanks includes:

Pumping Unit	Rod Pump
Electric Motor	Separator
Wellhead	Flow lines - 1000'
Sucker Rods to Depth	Meter Run with House

Very Good

Barrels

900	72830	74780	76730	78680	80630	82580
800	72830	74780	76730	78680	80630	82580
700	57840	59790	61740	63690	65640	67590
600	52630	54580	56530	58480	60430	62380
500	52630	54580	56530	58480	60430	62380
400	46650	48250	49850	51450	53050	54650
300	40820	42420	44020	45620	47220	48820
200	37030	38630	40230	41830	43430	45030
100	26720	28320	29920	31520	33120	34720
	500	1000	1500	2000	2500	3000
	Depth					

Average

Barrels

900	34135	35060	35985	36910	37835	38760
800	34135	35060	35985	36910	37835	38760
700	29655	30580	31505	32430	33355	34280
600	28485	29410	30335	31260	32185	33110
500	28485	29410	30335	31260	32185	33110
400	24100	24850	25600	26350	27100	27850
300	19960	20710	21460	22210	22960	23710
200	19130	19880	20630	21380	22130	22880
100	14060	14810	15560	16310	17060	17810
	500	1000	1500	2000	2500	3000
	Depth					

Minimum

Barrels

900	8810	9010	9210	9410	9610	9810
800	8810	9010	9210	9410	9610	9810
700	7690	7890	8090	8290	8490	8690
600	7390	7590	7790	7990	8190	8390
500	7390	7590	7790	7990	8190	8390
400	6340	6530	6720	6910	7100	7290
300	5300	5490	5680	5870	6060	6250
200	5090	5280	5470	5660	5850	6040
100	3820	4010	4200	4390	4580	4770
	500	1000	1500	2000	2500	3000
	Depth					

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Gas Lift Coal Seams Well with Tanks

The basic equipment for a gas lift coal seams gas well with water storage tanks includes:

Wellhead
 Separator
 400 Barrel Water Storage Tanks
 Flow Lines - 600'
 Meter Run with House

Very Good**Barrels**

900	30920	30920	30920	30920	30920	30920
800	30920	30920	30920	30920	30920	30920
700	30920	30920	30920	30920	30920	30920
600	30920	30920	30920	30920	30920	30920
500	30920	30920	30920	30920	30920	30920
400	30920	30920	30920	30920	30920	30920
300	30920	30920	30920	30920	30920	30920
200	30920	30920	30920	30920	30920	30920
100	30920	30920	30920	30920	30920	30920
	500	1000	1500	2000	2500	3000
	Depth					

Average**Barrels**

900	13180	13180	13180	13180	13180	13180
800	13180	13180	13180	13180	13180	13180
700	13180	13180	13180	13180	13180	13180
600	13180	13180	13180	13180	13180	13180
500	13180	13180	13180	13180	13180	13180
400	13180	13180	13180	13180	13180	13180
300	13180	13180	13180	13180	13180	13180
200	13180	13180	13180	13180	13180	13180
100	13180	13180	13180	13180	13180	13180
	500	1000	1500	2000	2500	3000
	Depth					

Minimum**Barrels**

900	4740	4740	4740	4740	4740	4740
800	4740	4740	4740	4740	4740	4740
700	4740	4740	4740	4740	4740	4740
600	4740	4740	4740	4740	4740	4740
500	4740	4740	4740	4740	4740	4740
400	4740	4740	4740	4740	4740	4740
300	4740	4740	4740	4740	4740	4740
200	4740	4740	4740	4740	4740	4740
100	4740	4740	4740	4740	4740	4740
	500	1000	1500	2000	2500	3000
	Depth					

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Gas Lift Coal Seams Well without Tanks

The basic equipment for a gas lift coal seams gas well without water storage tanks includes:

Wellhead
 Separator
 Flow Lines - 1000'
 Meter Run with House

Very Good

Barrels

900	13080	13080	13080	13080	13080	13080
800	13080	13080	13080	13080	13080	13080
700	13080	13080	13080	13080	13080	13080
600	13080	13080	13080	13080	13080	13080
500	13080	13080	13080	13080	13080	13080
400	13080	13080	13080	13080	13080	13080
300	13080	13080	13080	13080	13080	13080
200	13080	13080	13080	13080	13080	13080
100	13080	13080	13080	13080	13080	13080
	500	1000	1500	2000	2500	3000

Depth

Average

Barrels

900	7400	7400	7400	7400	7400	7400
800	7400	7400	7400	7400	7400	7400
700	7400	7400	7400	7400	7400	7400
600	7400	7400	7400	7400	7400	7400
500	7400	7400	7400	7400	7400	7400
400	7400	7400	7400	7400	7400	7400
300	7400	7400	7400	7400	7400	7400
200	7400	7400	7400	7400	7400	7400
100	7400	7400	7400	7400	7400	7400
	500	1000	1500	2000	2500	3000

Depth

Minimum

Barrels

900	1960	1960	1960	1960	1960	1960
800	1960	1960	1960	1960	1960	1960
700	1960	1960	1960	1960	1960	1960
600	1960	1960	1960	1960	1960	1960
500	1960	1960	1960	1960	1960	1960
400	1960	1960	1960	1960	1960	1960
300	1960	1960	1960	1960	1960	1960
200	1960	1960	1960	1960	1960	1960
100	1960	1960	1960	1960	1960	1960
	500	1000	1500	2000	2500	3000

Depth

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value ESP Coal Seams Gas Well with Tanks (Electric Motor)

The basic equipment for an ESP coal seams gas well with water storage tanks includes:

Wellhead	Electric Cable to Depth
Transformer	400 Barrel Water Storage Tanks
Electric Motor	Separator
Submersible Pump	Flow Lines - 600'
Equalizer	Meter Run with House
Switch Board	

Very Good

Barrels

900	50260	51010	51760	52510	53260	54010
800	50260	51010	51760	52510	53260	54010
700	50260	51010	51760	52510	53260	54010
600	48100	48850	49600	50350	51100	51850
500	48100	48850	49600	50350	51100	51850
400	48100	48850	49600	50350	51100	51850
300	47660	48410	49160	49910	50660	51410
200	47660	48410	49160	49910	50660	51410
100	47660	48410	49160	49910	50660	51410
	500	1000	1500	2000	2500	3000
	Depth					

Average

Barrels

900	24425	24950	25475	26000	26525	27050
800	24425	24950	25475	26000	26525	27050
700	24425	24950	25475	26000	26525	27050
600	23435	23960	24485	25010	25535	26060
500	23435	23960	24485	25010	25535	26060
400	23435	23960	24485	25010	25535	26060
300	22915	23440	23965	24490	25015	25540
200	22915	23440	23965	24490	25015	25540
100	22915	23440	23965	24490	25015	25540
	500	1000	1500	2000	2500	3000
	Depth					

Minimum

Barrels

900	7440	7570	7700	7830	7960	8090
800	7440	7570	7700	7830	7960	8090
700	7440	7570	7700	7830	7960	8090
600	7310	7440	7570	7700	7830	7960
500	7310	7440	7570	7700	7830	7960
400	7310	7440	7570	7700	7830	7960
300	7170	7300	7430	7560	7690	7820
200	7170	7300	7430	7560	7690	7820
100	7170	7300	7430	7560	7690	7820
	500	1000	1500	2000	2500	3000
	Depth					

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value ESP Coal Seams Gas Well without Tanks (Electric Motor)

The basic equipment for an ESP coal seams gas well without water storage tanks includes:

Wellhead	Switchboard
Transformer	Electric Cable to Depth
Electric Motor	Separator
Submersible Pump	Flow Lines - 1000'
Equalizer	Meter Run with House

Very Good

Barrels

900	32420	33170	33920	34670	35420	36170
800	32420	33170	33920	34670	35420	36170
700	32420	33170	33920	34670	35420	36170
600	30260	31010	31760	32510	33260	34010
500	30260	31010	31760	32510	33260	34010
400	30260	31010	31760	32510	33260	34010
300	29820	30570	31320	32070	32820	33570
200	29820	30570	31320	32070	32820	33570
100	29820	30570	31320	32070	32820	33570
	500	1000	1500	2000	2500	3000

Depth

Average

Barrels

900	18645	19170	19695	20220	20745	21270
800	18645	19170	19695	20220	20745	21270
700	18645	19170	19695	20220	20745	21270
600	17655	18180	18705	19230	19755	20280
500	17655	18180	18705	19230	19755	20280
400	17655	18180	18705	19230	19755	20280
300	17135	17660	18185	18710	19235	19760
200	17135	17660	18185	18710	19235	19760
100	17135	17660	18185	18710	19235	19760
	500	1000	1500	2000	2500	3000

Depth

Minimum

Barrels

900	4660	4790	4920	5050	5180	5310
800	4660	4790	4920	5050	5180	5310
700	4660	4790	4920	5050	5180	5310
600	4530	4660	4790	4920	5050	5180
500	4530	4660	4790	4920	5050	5180
400	4530	4660	4790	4920	5050	5180
300	4390	4520	4650	4780	4910	5040
200	4390	4520	4650	4780	4910	5040
100	4390	4520	4650	4780	4910	5040
	500	1000	1500	2000	2500	3000

Depth

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well with Tanks (Gas Engine)

The basic equipment for a pumping gas well with oil storage tanks includes:

Pumping Unit	Rod Pump
Gas Engine	Separator
Wellhead	400 Barrel Oil Storage Tanks with Stairway
Sucker Rods to Depth	Flow lines - 600'
	Meter Run with House

Very Good

Barrels

900	101180	103130	105080	107030	108980	110930
800	101180	103130	105080	107030	108980	110930
700	83420	85370	87320	89270	91220	93170
600	77030	78980	80930	82880	84830	86780
500	77030	78980	80930	82880	84830	86780
400	70240	71840	73440	75040	76640	78240
300	63690	65290	66890	68490	70090	71690
200	59870	61470	63070	64670	66270	67870
100	47590	49190	50790	52390	53990	55590
	500	1000	1500	2000	2500	3000

Depth

Average

Barrels

900	47425	48350	49275	50200	51125	52050
800	47425	48350	49275	50200	51125	52050
700	41705	42630	43555	44480	45405	46330
600	39595	40520	41445	42370	43295	44220
500	39595	40520	41445	42370	43295	44220
400	34310	35060	35810	36560	37310	38060
300	29670	30420	31170	31920	32670	33420
200	28720	29470	30220	30970	31720	32470
100	22440	23190	23940	24690	25440	26190
	500	1000	1500	2000	2500	3000

Depth

Minimum

Barrels

900	13460	13660	13860	14060	14260	14460
800	13460	13660	13860	14060	14260	14460
700	12030	12230	12430	12630	12830	13030
600	11500	11700	11900	12100	12300	12500
500	11500	11700	11900	12100	12300	12500
400	10220	10410	10600	10790	10980	11170
300	9060	9250	9440	9630	9820	10010
200	8820	9010	9200	9390	9580	9770
100	7250	7440	7630	7820	8010	8200
	500	1000	1500	2000	2500	3000

Depth

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well without Tanks (Gas Engine)

The basic equipment for a pumping gas well without oil storage tanks includes:

Pumping Unit	Rod Pump
Gas Engine	Separator
Wellhead	Flow lines - 1000'
Sucker Rods to Depth	Meter Run with House

Very Good

Barrels

900	83340	85290	87240	89190	91140	93090
800	83340	85290	87240	89190	91140	93090
700	65580	67530	69480	71430	73380	75330
600	59190	61140	63090	65040	66990	68940
500	59190	61140	63090	65040	66990	68940
400	52400	54000	55600	57200	58800	60400
300	45850	47450	49050	50650	52250	53850
200	42030	43630	45230	46830	48430	50030
100	29750	31350	32950	34550	36150	37750
	500	1000	1500	2000	2500	3000

Depth

Average

Barrels

900	41645	42570	43495	44420	45345	46270
800	41645	42570	43495	44420	45345	46270
700	35925	36850	37775	38700	39625	40550
600	33815	34740	35665	36590	37515	38440
500	33815	34740	35665	36590	37515	38440
400	28530	29280	30030	30780	31530	32280
300	23890	24640	25390	26140	26890	27640
200	22940	23690	24440	25190	25940	26690
100	16660	17410	18160	18910	19660	20410
	500	1000	1500	2000	2500	3000

Depth

Minimum

Barrels

900	10680	10880	11080	11280	11480	11680
800	10680	10880	11080	11280	11480	11680
700	9250	9450	9650	9850	10050	10250
600	8720	8920	9120	9320	9520	9720
500	8720	8920	9120	9320	9520	9720
400	7440	7630	7820	8010	8200	8390
300	6280	6470	6660	6850	7040	7230
200	6040	6230	6420	6610	6800	6990
100	4470	4660	4850	5040	5230	5420
	500	1000	1500	2000	2500	3000

Depth

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Progressive Cavity Coal Seams Gas Well with Tanks (Gas Engine)

The basic equipment for a progressive cavity coal seams gas well with water storage tanks includes:

Wellhead	Gas Engine
Separator	Progressive Cavity Pump
400 Barrel Water Storage Tanks	Sucker Rods to Depth
Flow Lines - 600'	Wellhead Drive
Meter Run with House	Miscellaneous Surface Equipment

Very Good**Barrels**

900	62990	64940	66890	68840	70790	72740
800	62990	64940	66890	68840	70790	72740
700	62990	64940	66890	68840	70790	72740
600	62990	64940	66890	68840	70790	72740
500	62990	64940	66890	68840	70790	72740
400	49040	50640	52240	53840	57700	59300
300	49040	50640	52240	53840	57700	59300
200	49040	50640	52240	53840	57700	59300
100	49040	50640	52240	53840	57700	59300
	500	1000	1500	2000	2500	3000

Depth**Average****Barrels**

900	32235	33160	34085	35010	35935	36860
800	32235	33160	34085	35010	35935	36860
700	32235	33160	34085	35010	35935	36860
600	32235	33160	34085	35010	35935	36860
500	32235	33160	34085	35010	35935	36860
400	23850	24600	25350	26100	28210	28960
300	23850	24600	25350	26100	28210	28960
200	23850	24600	25350	26100	28210	28960
100	23850	24600	25350	26100	28210	28960
	500	1000	1500	2000	2500	3000

Depth**Minimum****Barrels**

900	9470	9670	9870	10070	10270	10470
800	9470	9670	9870	10070	10270	10470
700	9470	9670	9870	10070	10270	10470
600	9470	9670	9870	10070	10270	10470
500	9470	9670	9870	10070	10270	10470
400	7420	7610	7800	7990	8520	8710
300	7420	7610	7800	7990	8520	8710
200	7420	7610	7800	7990	8520	8710
100	7420	7610	7800	7990	8520	8710
	500	1000	1500	2000	2500	3000

Depth

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Progressive Cavity Coal Seams Gas Well with Tanks (Electric Motor)

The basic equipment for a progressive cavity coal seams gas well with water storage tanks includes:

Wellhead	Electric Motor
Separator	Progressive Cavity Pump
400 Barrel Water Storage Tanks	Sucker Rods to Depth
Flow Lines - 600'	Wellhead Drive
Meter Run with House	Miscellaneous Surface Equipment

Very Good**Barrels**

900	55080	57030	58980	60930	62880	64830
800	55080	57030	58980	60930	62880	64830
700	55080	57030	58980	60930	62880	64830
600	55080	57030	58980	60930	62880	64830
500	55080	57030	58980	60930	62880	64830
400	45820	47420	49020	50620	54480	56080
300	45820	47420	49020	50620	54480	56080
200	45820	47420	49020	50620	54480	56080
100	45820	47420	49020	50620	54480	56080
	500	1000	1500	2000	2500	3000

Depth**Average****Barrels**

900	27435	28360	29285	30210	31135	32060
800	27435	28360	29285	30210	31135	32060
700	27435	28360	29285	30210	31135	32060
600	27435	28360	29285	30210	31135	32060
500	27435	28360	29285	30210	31135	32060
400	21920	22670	23420	24170	26280	27030
300	21920	22670	23420	24170	26280	27030
200	21920	22670	23420	24170	26280	27030
100	21920	22670	23420	24170	26280	27030
	500	1000	1500	2000	2500	3000

Depth**Minimum****Barrels**

900	8270	8470	8670	8870	9070	9270
800	8270	8470	8670	8870	9070	9270
700	8270	8470	8670	8870	9070	9270
600	8270	8470	8670	8870	9070	9270
500	8270	8470	8670	8870	9070	9270
400	6930	7120	7310	7500	8030	8220
300	6930	7120	7310	7500	8030	8220
200	6930	7120	7310	7500	8030	8220
100	6930	7120	7310	7500	8030	8220
	500	1000	1500	2000	2500	3000

Depth

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Progressive Cavity Coal Seams Gas Well without Tanks (Gas Engine)

The basic equipment for a progressive cavity coal seams gas well without water storage tanks includes:

Wellhead	Gas Engine
Separator	Progressive Cavity Pump
Flow Lines - 1000'	Sucker Rods to Depth
Meter Run with House	Wellhead Drive
	Miscellaneous Surface Equipment

Very Good

Barrels

900	45150	47100	49050	51000	52950	54900
800	45150	47100	49050	51000	52950	54900
700	45150	47100	49050	51000	52950	54900
600	45150	47100	49050	51000	52950	54900
500	45150	47100	49050	51000	52950	54900
400	31200	32800	34400	36000	39860	41460
300	31200	32800	34400	36000	39860	41460
200	31200	32800	34400	36000	39860	41460
100	31200	32800	34400	36000	39860	41460
	500	1000	1500	2000	2500	3000

Depth

Average

Barrels

900	26455	27380	28305	29230	30155	31080
800	26455	27380	28305	29230	30155	31080
700	26455	27380	28305	29230	30155	31080
600	26455	27380	28305	29230	30155	31080
500	26455	27380	28305	29230	30155	31080
400	18070	18820	19570	20320	22430	23180
300	18070	18820	19570	20320	22430	23180
200	18070	18820	19570	20320	22430	23180
100	18070	18820	19570	20320	22430	23180
	500	1000	1500	2000	2500	3000

Depth

Minimum

Barrels

900	6690	6890	7090	7290	7490	7690
800	6690	6890	7090	7290	7490	7690
700	6690	6890	7090	7290	7490	7690
600	6690	6890	7090	7290	7490	7690
500	6690	6890	7090	7290	7490	7690
400	4640	4830	5020	5210	5740	5930
300	4640	4830	5020	5210	5740	5930
200	4640	4830	5020	5210	5740	5930
100	4640	4830	5020	5210	5740	5930
	500	1000	1500	2000	2500	3000

Depth

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Progressive Cavity Coal Seams Gas Well without Tanks (Electric Motor)

The basic equipment for a progressive cavity coal seams gas well without water storage tanks includes:

Wellhead	Electric Motor
Separator	Progressive Cavity Pump
Flow Lines - 1000'	Sucker Rods to Depth
Meter Run with House	Wellhead Drive
	Miscellaneous Surface Equipment

Very Good**Barrels**

900	37240	39190	41140	43090	45040	46990
800	37240	39190	41140	43090	45040	46990
700	37240	39190	41140	43090	45040	46990
600	37240	39190	41140	43090	45040	46990
500	37240	39190	41140	43090	45040	46990
400	27980	29580	31180	32780	36640	38240
300	27980	29580	31180	32780	36640	38240
200	27980	29580	31180	32780	36640	38240
100	27980	29580	31180	32780	36640	38240
	500	1000	1500	2000	2500	3000

Depth**Average****Barrels**

900	21655	22580	23505	24430	25355	26280
800	21655	22580	23505	24430	25355	26280
700	21655	22580	23505	24430	25355	26280
600	21655	22580	23505	24430	25355	26280
500	21655	22580	23505	24430	25355	26280
400	16140	16890	17640	18390	20500	21250
300	16140	16890	17640	18390	20500	21250
200	16140	16890	17640	18390	20500	21250
100	16140	16890	17640	18390	20500	21250
	500	1000	1500	2000	2500	3000

Depth**Minimum****Barrels**

900	5490	5690	5890	6090	6290	6490
800	5490	5690	5890	6090	6290	6490
700	5490	5690	5890	6090	6290	6490
600	5490	5690	5890	6090	6290	6490
500	5490	5690	5890	6090	6290	6490
400	4150	4340	4530	4720	5250	5440
300	4150	4340	4530	4720	5250	5440
200	4150	4340	4530	4720	5250	5440
100	4150	4340	4530	4720	5250	5440
	500	1000	1500	2000	2500	3000

Depth

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well with Tanks

The basic equipment for a flowing gas well with oil storage tanks includes:

Wellhead
 Separator
 400 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

Very Good**MCF**

850	27040	27040	27040	27040	27040	27040
750	27040	27040	27040	27040	27040	27040
650	27040	27040	27040	27040	27040	27040
550	27040	27040	27040	27040	27040	27040
450	27040	27040	27040	27040	27040	27040
350	27040	27040	27040	27040	27040	27040
250	27040	27040	27040	27040	27040	27040
150	27040	27040	27040	27040	27040	27040
60	27040	27040	27040	27040	27040	27040
	500	1000	1500	2000	2500	3000
	Depth					

Average**MCF**

850	11060	11060	11060	11060	11060	11060
750	11060	11060	11060	11060	11060	11060
650	11060	11060	11060	11060	11060	11060
550	11060	11060	11060	11060	11060	11060
450	11060	11060	11060	11060	11060	11060
350	11060	11060	11060	11060	11060	11060
250	11060	11060	11060	11060	11060	11060
150	11060	11060	11060	11060	11060	11060
60	11060	11060	11060	11060	11060	11060
	500	1000	1500	2000	2500	3000
	Depth					

Minimum**MCF**

850	4110	4110	4110	4110	4110	4110
750	4110	4110	4110	4110	4110	4110
650	4110	4110	4110	4110	4110	4110
550	4110	4110	4110	4110	4110	4110
450	4110	4110	4110	4110	4110	4110
350	4110	4110	4110	4110	4110	4110
250	4110	4110	4110	4110	4110	4110
150	4110	4110	4110	4110	4110	4110
60	4110	4110	4110	4110	4110	4110
	500	1000	1500	2000	2500	3000
	Depth					

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Gas Well without Tanks**

The basic equipment for a flowing gas well without oil storage tanks includes:

Wellhead
 Separator
 Flow lines - 1000'

Very Good**MCF**

850	9200	9200	9200	9200	9200	9200
750	9200	9200	9200	9200	9200	9200
650	9200	9200	9200	9200	9200	9200
550	9200	9200	9200	9200	9200	9200
450	9200	9200	9200	9200	9200	9200
350	9200	9200	9200	9200	9200	9200
250	9200	9200	9200	9200	9200	9200
150	9200	9200	9200	9200	9200	9200
60	9200	9200	9200	9200	9200	9200
	500	1000	1500	2000	2500	3000
	Depth					

Average**MCF**

850	5280	5280	5280	5280	5280	5280
750	5280	5280	5280	5280	5280	5280
650	5280	5280	5280	5280	5280	5280
550	5280	5280	5280	5280	5280	5280
450	5280	5280	5280	5280	5280	5280
350	5280	5280	5280	5280	5280	5280
250	5280	5280	5280	5280	5280	5280
150	5280	5280	5280	5280	5280	5280
60	5280	5280	5280	5280	5280	5280
	500	1000	1500	2000	2500	3000
	Depth					

Minimum**MCF**

850	1330	1330	1330	1330	1330	1330
750	1330	1330	1330	1330	1330	1330
650	1330	1330	1330	1330	1330	1330
550	1330	1330	1330	1330	1330	1330
450	1330	1330	1330	1330	1330	1330
350	1330	1330	1330	1330	1330	1330
250	1330	1330	1330	1330	1330	1330
150	1330	1330	1330	1330	1330	1330
60	1330	1330	1330	1330	1330	1330
	500	1000	1500	2000	2500	3000
	Depth					

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well without Tanks or Separator

The basic equipment for a flowing gas well without tanks or production unit includes:

Wellhead
Flow lines - 1000'

**Very Good
MCF**

850	4390	4390	4390	4390	4390	4390
750	4390	4390	4390	4390	4390	4390
650	4390	4390	4390	4390	4390	4390
550	4390	4390	4390	4390	4390	4390
450	4390	4390	4390	4390	4390	4390
350	4390	4390	4390	4390	4390	4390
250	4390	4390	4390	4390	4390	4390
150	4390	4390	4390	4390	4390	4390
60	4390	4390	4390	4390	4390	4390
	500	1000	1500	2000	2500	3000
	Depth					

**Average
MCF**

850	2950	2950	2950	2950	2950	2950
750	2950	2950	2950	2950	2950	2950
650	2950	2950	2950	2950	2950	2950
550	2950	2950	2950	2950	2950	2950
450	2950	2950	2950	2950	2950	2950
350	2950	2950	2950	2950	2950	2950
250	2950	2950	2950	2950	2950	2950
150	2950	2950	2950	2950	2950	2950
60	2950	2950	2950	2950	2950	2950
	500	1000	1500	2000	2500	3000
	Depth					

**Minimum
MCF**

850	750	750	750	750	750	750
750	750	750	750	750	750	750
650	750	750	750	750	750	750
550	750	750	750	750	750	750
450	750	750	750	750	750	750
350	750	750	750	750	750	750
250	750	750	750	750	750	750
150	750	750	750	750	750	750
60	750	750	750	750	750	750
	500	1000	1500	2000	2500	3000
	Depth					

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS**Common Tank Battery**

The basic equipment for a common tank battery includes:

300 Barrel Oil Storage Tanks with Stairway
Separators

Recycle Pump
Manifolds and Headers

Very Good**Tanks**

10	59930	64740	69550	74360
9	54040	58850	63660	68470
8	48150	52960	57770	62580
7	42260	47070	51880	56690
6	36370	41180	45990	50800
5	30480	35290	40100	44910
4	24590	29400	34210	39020
3	18700	23510	28320	33130
2	12810	17620	22430	27240
1	5890	11730	16540	21350

Tanks only	With 1 Separator	With 2 Separators	With 3 Separators
-------------------	-------------------------	--------------------------	--------------------------

For Each Additional Tank	Add	5890
For Each Additional Separator	Add	4810
For Each Skimming Tank	Add	6060

Average**Tanks**

10	30040	32370	34700	37030
9	27100	29430	31760	34090
8	24160	26490	28820	31150
7	21220	23550	25880	28210
6	18280	20610	22940	25270
5	15340	17670	20000	22330
4	12400	14730	17060	19390
3	9460	11790	14120	16450
2	6520	8850	11180	13510
1	2940	5910	8240	10570

Tanks only	With 1 Separator	With 2 Separators	With 3 Separators
-------------------	-------------------------	--------------------------	--------------------------

For Each Additional Tank	Add	2940
For Each Additional Separator	Add	2330
For Each Skimming Tank	Add	3330

Minimum**Tanks**

10	13660	14240	14820	15400
9	12310	12890	13470	14050
8	10960	11540	12120	12700
7	9610	10190	10770	11350
6	8260	8840	9420	10000
5	6910	7490	8070	8650
4	5560	6140	6720	7300
3	4210	4790	5370	5950
2	2860	3440	4020	4600
1	1350	2090	2670	3250

Tanks only	With 1 Separator	With 2 Separators	With 3 Separators
-------------------	-------------------------	--------------------------	--------------------------

For Each Additional Tank	Add	1350
For Each Additional Separator	Add	580
For Each Skimming Tank	Add	1200

LAS VEGAS-RATON BASIN BASIC EQUIPMENT LISTS

Total Value Water Injection Well / Water Disposal Well

The basic equipment for a water injection well includes:

Wellhead

Injection lines - 1000'

Very Good

Barrels

900	4390	4390	4390	4390	4390	4390
800	4390	4390	4390	4390	4390	4390
700	4390	4390	4390	4390	4390	4390
600	4390	4390	4390	4390	4390	4390
500	4390	4390	4390	4390	4390	4390
400	4390	4390	4390	4390	4390	4390
300	4390	4390	4390	4390	4390	4390
200	4390	4390	4390	4390	4390	4390
100	4390	4390	4390	4390	4390	4390
	500	1000	1500	2000	2500	3000

Depth

Average

Barrels

900	2950	2950	2950	2950	2950	2950
800	2950	2950	2950	2950	2950	2950
700	2950	2950	2950	2950	2950	2950
600	2950	2950	2950	2950	2950	2950
500	2950	2950	2950	2950	2950	2950
400	2950	2950	2950	2950	2950	2950
300	2950	2950	2950	2950	2950	2950
200	2950	2950	2950	2950	2950	2950
100	2950	2950	2950	2950	2950	2950
	500	1000	1500	2000	2500	3000

Depth

Minimum

Barrels

900	750	750	750	750	750	750
800	750	750	750	750	750	750
700	750	750	750	750	750	750
600	750	750	750	750	750	750
500	750	750	750	750	750	750
400	750	750	750	750	750	750
300	750	750	750	750	750	750
200	750	750	750	750	750	750
100	750	750	750	750	750	750
	500	1000	1500	2000	2500	3000

Depth

The page left blank intentionally.

PARADOX BASIN

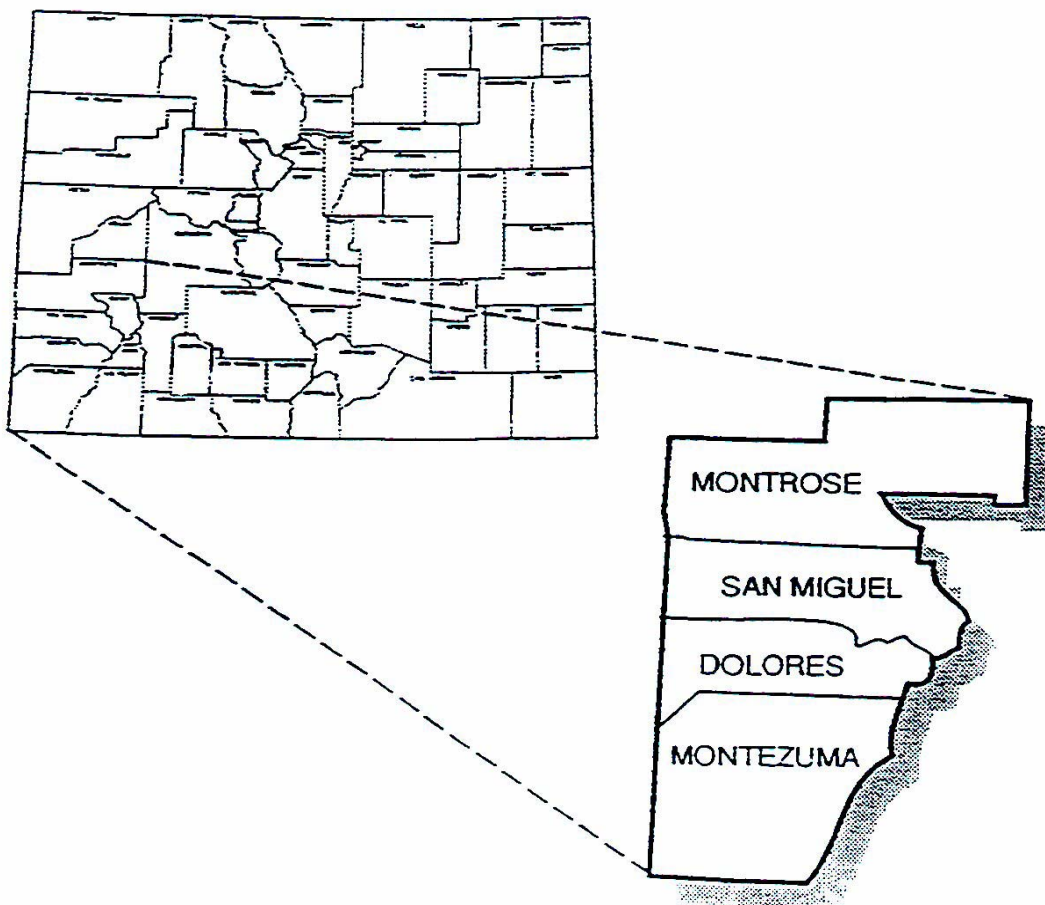
6.155

The Paradox Basin is located in the extreme southwestern part of the state.
It includes the following counties:

Dolores
Montezuma

Montrose
San Miguel

Paradox Basin



Total Value Pumping Oil Well with Tanks (Gas Engine)

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Gas Engine	Rod Pump
Wellhead	300 Barrel Oil Storage Tanks with Stairway
Heater Treater	Flow lines - 600'

Very Good

Barrels

900	113987	114946	118883									
800	113987	114946	116776	120545								
700	94001	114946	116776	120545								
600	83822	93372	114636	113145	120068							
500	83822	84648	94884	113145	114808	121730						
400	77382	84648	85924	96395	99568	116470	121743	123405				
300	68564	69516	78206	79370	89475	90874	117883	119545	124818			
200	64450	65360	66270	66140	67050	81698	82862	93673	95073	96472	124533	
100	51855	52720	61555	62420	63285	64150	69416	78166	88693	90092	99776	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	56693	56948	60736									
800	56693	56948	57813	61543								
700	50098	56948	57813	61543								
600	46844	50378	57353	57523	61889							
500	46844	46906	51118	57523	58329	62695						
400	41734	46906	47548	51858	53329	59135	63391	64198				
300	36114	36616	41978	42560	48999	49685	59421	60228	64484			
200	34965	35438	35912	35295	35769	43724	44306	51058	51744	52430	62646	
100	28398	28830	33493	33925	34358	34790	37086	40628	46914	47600	54026	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	15712	15771	16738									
800	15712	15771	15980	16935								
700	14078	15771	15980	16935								
600	13359	14148	15870	15935	17023							
500	13359	13377	14327	15935	16133	17220						
400	12089	13377	13546	14507	14883	16330	17388	17585				
300	10716	10854	12182	12337	13815	13985	16398	16595	17653			
200	10403	10530	10658	10515	10643	12646	12801	14324	14493	14663	17188	
100	8754	8870	10046	10163	10279	10395	11034	11786	13303	13473	15005	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Total Value Pumping Oil Well without Tanks (Gas Engine)

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit
 Gas Engine
 Wellhead
 Sucker Rods to Depth
 Rod Pump
 Flow lines - 1000'

Very Good**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	89027	89986	93923								
800	89027	89986	91816	95585							
700	69041	89986	91816	95585							
600	61002	70552	91816	90325	97248						
500	61002	61828	72064	90325	91988	98910					
400	54562	61828	63104	73575	76748	93650	98923	100585			
300	45744	46696	55386	56550	66655	68054	95063	96725	101998		
200	41630	42540	43450	43320	44230	58878	60042	70853	72253	73652	101713
100	29035	29900	38735	39600	40465	41330	46596	55346	65873	67272	76956
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	43293	43548	47336								
800	43293	43548	44413	48143							
700	36698	43548	44413	48143							
600	33904	37438	44413	44583	48949						
500	33904	33966	38178	44583	45389	49755					
400	28794	33966	34608	38918	40389	46195	50451	51258			
300	23174	23676	29038	29620	36059	36745	46481	47288	51544		
200	22025	22498	22972	22355	22829	30784	31366	38118	38804	39490	49706
100	15458	15890	20553	20985	21418	21850	24146	27688	33974	34660	41086
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	11132	11191	12158								
800	11132	11191	11400	12355							
700	9498	11191	11400	12355							
600	8889	9678	11400	11465	12553						
500	8889	8907	9857	11465	11663	12750					
400	7619	8907	9076	10037	10413	11860	12918	13115			
300	6246	6384	7712	7867	9345	9515	11928	12125	13183		
200	5933	6060	6188	6045	6173	8176	8331	9854	10023	10193	12718
100	4284	4400	5576	5693	5809	5925	6564	7316	8833	9003	10535
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Total Value Flowing Oil Well with Tanks

The basic equipment for a flowing oil well with oil storage tanks includes:

Wellhead
 Heater Treater
 300 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

Very Good**Barrels**

900	32870	32870	32870	32870	32870	32870	32870	32870	32870	32870	32870
800	32870	32870	32870	32870	32870	32870	32870	32870	32870	32870	32870
700	32870	32870	32870	32870	32870	32870	32870	32870	32870	32870	32870
600	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730
500	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730
400	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730
300	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730
200	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730
100	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730	30730
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Average****Barrels**

900	17320	17320	17320	17320	17320	17320	17320	17320	17320	17320	17320
800	17320	17320	17320	17320	17320	17320	17320	17320	17320	17320	17320
700	17320	17320	17320	17320	17320	17320	17320	17320	17320	17320	17320
600	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860
500	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860
400	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860
300	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860
200	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860
100	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860	16860
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Minimum****Barrels**

900	5730	5730	5730	5730	5730	5730	5730	5730	5730	5730	5730
800	5730	5730	5730	5730	5730	5730	5730	5730	5730	5730	5730
700	5730	5730	5730	5730	5730	5730	5730	5730	5730	5730	5730
600	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620
500	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620
400	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620
300	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620
200	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620
100	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620	5620
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Total Value Flowing Oil Well without Tanks

The basic equipment for a flowing oil well without oil storage tanks includes:

Wellhead
Flow lines - 1000'

Very Good**Barrels**

900	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
800	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
700	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
600	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
500	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
400	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
300	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
200	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
100	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Average**Barrels**

900	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
800	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
700	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
600	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
500	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
400	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
300	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
200	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
100	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Minimum**Barrels**

900	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
800	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
700	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
600	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
500	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
400	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
300	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
200	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
100	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Total Value Pumping Gas Well with Tank (Gas Engine)

The basic equipment for a pumping gas well with oil storage tank includes:

Pumping Unit	Rod Pump
Gas Engine	Production Unit
Wellhead	300 Barrel Oil Storage Tank with Stairway
Sucker Rods to Depth	Flow lines - 600'

Very Good

Barrels

900	104307	105266	109203									
800	104307	105266	107096	110865								
700	84321	105266	107096	110865								
600	76282	85832	107096	105605	112528							
500	76282	77108	87344	105605	107268	114190						
400	69842	77108	78384	88855	92028	108930	114203	115865				
300	61024	61976	70666	71830	81935	83334	110343	112005	117278			
200	56910	57820	58730	58600	59510	74158	75322	86133	87533	88932	116993	
100	44315	45180	54015	54880	55745	56610	61876	70626	81153	82552	92236	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	51113	51368	55156									
800	51113	51368	52233	55963								
700	44518	51368	52233	55963								
600	41724	45258	52233	52403	56769							
500	41724	41786	45998	52403	53209	57575						
400	36614	41786	42428	46738	48209	54015	58271	59078				
300	30994	31496	36858	37440	43879	44565	54301	55108	59364			
200	29845	30318	30792	30175	30649	38604	39186	45938	46624	47310	57526	
100	23278	23710	28373	28805	29238	29670	31966	35508	41794	42480	48906	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	13692	13751	14718									
800	13692	13751	13960	14915								
700	12058	13751	13960	14915								
600	11449	12238	13960	14025	15113							
500	11449	11467	12417	14025	14223	15310						
400	10179	11467	11636	12597	12973	14420	15478	15675				
300	8806	8944	10272	10427	11905	12075	14488	14685	15743			
200	8493	8620	8748	8605	8733	10736	10891	12414	12583	12753	15278	
100	6844	6960	8136	8253	8369	8485	9124	9876	11393	11563	13095	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Total Value Pumping Gas Well without Tank (Gas Engine)

The basic equipment for a pumping gas well without oil storage tank includes:

Pumping Unit
 Gas Engine
 Wellhead
 Rod Pump
 Flow lines - 1000'
 Sucker Rods to Depth

Very Good**Barrels**

900	99677	100636	104573									
800	99677	100636	102466	106235								
700	79691	100636	102466	106235								
600	71652	81202	102466	100975	107898							
500	71652	72478	82714	100975	102638	109560						
400	65212	72478	73754	84225	87398	104300	109573	111235				
300	56394	57346	66036	67200	77305	78704	105713	107375	112648			
200	52280	53190	54100	53970	54880	69528	70692	81503	82903	84302	112363	
100	39685	40550	49385	50250	51115	51980	57246	65996	76523	77922	87606	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
	Depth											

Average**Barrels**

900	49053	49308	53096									
800	49053	49308	50173	53903								
700	42458	49308	50173	53903								
600	39664	43198	50173	50343	54709							
500	39664	39726	43938	50343	51149	55515						
400	34554	39726	40368	44678	46149	51955	56211	57018				
300	28934	29436	34798	35380	41819	42505	52241	53048	57304			
200	27785	28258	28732	28115	28589	36544	37126	43878	44564	45250	55466	
100	21218	21650	26313	26745	27178	27610	29906	33448	39734	40420	46846	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
	Depth											

Minimum**Barrels**

900	12562	12621	13588									
800	12562	12621	12830	13785								
700	10928	12621	12830	13785								
600	10319	11108	12830	12895	13983							
500	10319	10337	11287	12895	13093	14180						
400	9049	10337	10506	11467	11843	13290	14348	14545				
300	7676	7814	9142	9297	10775	10945	13358	13555	14613			
200	7363	7490	7618	7475	7603	9606	9761	11284	11453	11623	14148	
100	5714	5830	7006	7123	7239	7355	7994	8746	10263	10433	11965	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
	Depth											

Total Value Flowing Gas Well with Tanks

The basic equipment for a flowing gas well with oil storage tanks includes:

Wellhead
 Production Unit
 300 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

Very Good**MCF**

850	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190
750	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190
650	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190
550	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190
450	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190
350	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190
250	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190
150	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190
60	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190	23190
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average**MCF**

850	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740
750	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740
650	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740
550	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740
450	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740
350	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740
250	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740
150	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740
60	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740	11740
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum**MCF**

850	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710
750	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710
650	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710
550	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710
450	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710
350	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710
250	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710
150	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710
60	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Total Value Flowing Gas Well without Tanks

The basic equipment for a flowing gas well without oil storage tanks includes:

Wellhead
 Production Unit
 Flow lines - 1000'

**Very Good
MCF**

850	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
750	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
650	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
550	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
450	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
350	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
250	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
150	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
60	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Average
MCF**

850	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
750	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
650	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
550	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
450	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
350	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
250	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
150	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
60	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Minimum
MCF**

850	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
750	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
650	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
550	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
450	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
350	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
250	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
150	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
60	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Total Value Flowing Gas Well without Tanks or Production Unit

The basic equipment for a flowing gas well without production unit & tanks includes:

Wellhead
Flow lines - 1000'

**Very Good
MCF**

850	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
750	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
650	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
550	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
450	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
350	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
250	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
150	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
60	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Average
MCF**

850	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
750	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
650	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
550	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
450	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
350	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
250	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
150	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
60	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Minimum
MCF**

850	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
750	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
650	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
550	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
450	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
350	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
250	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
60	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

PARADOX BASIN BASIC EQUIPMENT LISTS

Common Tank Battery

6.165

The basic equipment for a common tank battery includes:

300 Barrel Oil Storage Tanks with Stairway

Heater Treaters

Recycle Pump

Separators

Manifolds and Headers

Very Good

Tanks

10	59930	74370	79180	88810	93620	98430	112870	117680
9	54040	68480	73290	82920	87730	92540	106980	111790
8	48150	60450	65260	72750	77560	86650	101090	105900
7	42260	54560	59370	66860	71670	80760	95200	100010
6	36370	48670	53480	60970	65780	70590	82890	87700
5	30480	42780	47590	55080	59890	64700	77000	81810
4	24590	36890	41700	49190	54000	58810	71110	75920
3	18700	31000	35810	43300	48110	52920	65220	70030
2	12810	25110	29920	37410	42220	47030	59330	64140
1	5890	19220	24030	31520	36330	41140	53440	58250

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	5890	For Each Skimming Tank	Add	6060
For Each Additional Separator	Add	4810			
For Each Additional Heater/Treater	Add	14440			

Average

Tanks

10	30040	38440	40770	46840	49170	51500	59900	62230
9	27100	35500	37830	43900	46230	48560	56960	59290
8	24160	32100	34430	40040	42370	45620	54020	56350
7	21220	29160	31490	37100	39430	42680	51080	53410
6	18280	26220	28550	34160	36490	38820	46760	49090
5	15340	23280	25610	31220	33550	35880	43820	46150
4	12400	20340	22670	28280	30610	32940	40880	43210
3	9460	17400	19730	25340	27670	30000	37940	40270
2	6520	14460	16790	22400	24730	27060	35000	37330
1	2940	11520	13850	19460	21790	24120	32060	34390

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	2940	For Each Skimming Tank	Add	3330
For Each Additional Separator	Add	2330			
For Each Additional Heater/Treater	Add	8400			

Minimum

Tanks

10	13660	15760	16340	17860	18440	19020	21120	21700
9	12310	14410	14990	16510	17090	17670	19770	20350
8	10960	12950	13530	14940	15520	16320	18420	19000
7	9610	11600	12180	13590	14170	14970	17070	17650
6	8260	10250	10830	12240	12820	13400	15390	15970
5	6910	8900	9480	10890	11470	12050	14040	14620
4	5560	7550	8130	9540	10120	10700	12690	13270
3	4210	6200	6780	8190	8770	9350	11340	11920
2	2860	4850	5430	6840	7420	8000	9990	10570
1	1350	3500	4080	5490	6070	6650	8640	9220

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separators	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	--	-----------------------	--	--	--	--

For Each Additional Tank	Add	1350	For Each Skimming Tank	Add	1200
For Each Additional Separator	Add	580			
For Each Additional Heater/Treater	Add	2100			

Total Value Water Injection Well / Water Disposal Well

The basic equipment for a water injection well includes:

Wellhead
Injection lines - 1000'

Very Good

Barrels

900	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
800	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
700	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
600	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
500	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
400	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
300	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
200	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
100	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Average

Barrels

900	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
800	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
700	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
600	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
500	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
400	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
300	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
200	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
100	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Minimum

Barrels

900	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
800	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
700	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
600	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
500	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
400	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
300	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
200	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
100	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Total Value ESP Water Supply Well

The basic equipment for an electric submersible pump water supply well includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flow lines - 1000'

Very Good

Barrels

	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
4100		60695	61510	62325	63140	63955	64770	65585	66400	67215	68030	68845
3800		55965	56780	57595	58410	59225	60040	60855	61670	62485	63300	64115
3400		52040	52790	53540	54290	55040	55790	56540	57290	58040	58790	59540
2800		50960	51710	52460	53210	53960	54710	55460	56210	56960	57710	58460
2300		47185	47935	48685	49435	50185	50935	51685	52435	53185	53935	54685
1900		46280	47030	47780	48530	49280	50030	50780	51530	52280	53030	53780
1600		43490	44240	44990	45740	46490	47240	47990	48740	49490	50240	50990
1100		38640	39390	40140	40890	41640	42390	43140	43890	44640	45390	46140
800	34570	38320	39070	39820	40570	41320	42070	42820	43570	44320	45070	45820
600	32410	36160	36910	37660	38410	39160	39910	40660	41410	42160	42910	43660
350	31970	35720	36470	37220	37970	38720	39470	40220	40970	41720	42470	43220
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth											

Average

Barrels

	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
4100		40330	40900	41470	42040	42610	43180	43750	44320	44890	45460	46030
3800		35700	36270	36840	37410	37980	38550	39120	39690	40260	40830	41400
3400		32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2800		32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205
2300		29765	30290	30815	31340	31865	32390	32915	33440	33965	34490	35015
1900		27655	28180	28705	29230	29755	30280	30805	31330	31855	32380	32905
1600		25745	26270	26795	27320	27845	28370	28895	29420	29945	30470	30995
1100		22285	22810	23335	23860	24385	24910	25435	25960	26485	27010	27535
800	19660	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010	27535
600	18670	21295	21820	22345	22870	23395	23920	24445	24970	25495	26020	26545
350	18150	20775	21300	21825	22350	22875	23400	23925	24450	24975	25500	26025
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth											

Minimum

Barrels

	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
4100		9485	9630	9775	9920	10065	10210	10355	10500	10645	10790	10935
3800		8965	9110	9255	9400	9545	9690	9835	9980	10125	10270	10415
3400		8250	8380	8510	8640	8770	8900	9030	9160	9290	9420	9550
2800		8040	8170	8300	8430	8560	8690	8820	8950	9080	9210	9340
2300		7450	7580	7710	7840	7970	8100	8230	8360	8490	8620	8750
1900		6930	7060	7190	7320	7450	7580	7710	7840	7970	8100	8230
1600		6460	6590	6720	6850	6980	7110	7240	7370	7500	7630	7760
1100		5580	5710	5840	5970	6100	6230	6360	6490	6620	6750	6880
800	4820	5470	5600	5730	5860	5990	6120	6250	6380	6510	6640	6770
600	4690	5340	5470	5600	5730	5860	5990	6120	6250	6380	6510	6640
350	4550	5200	5330	5460	5590	5720	5850	5980	6110	6240	6370	6500
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth											

Total Value Pumping Water Supply Well (Gas Engine)

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods to Depth
Wellhead	Rod Pump
Gas Engine	Flow lines - 1000'

Very Good**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	89027	89986	93923								
800	89027	89986	91816	95585							
700	69041	89986	91816	95585							
600	61002	70552	91816	90325	97248						
500	61002	61828	72064	90325	91988	98910					
400	54562	61828	63104	73575	76748	93650	98923	100585			
300	45744	46696	55386	56550	66655	68054	95063	96725	101998		
200	41630	42540	43450	43320	44230	58878	60042	70853	72253	73652	101713
100	29035	29900	38735	39600	40465	41330	46596	55346	65873	67272	76956
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	43293	43548	47336								
800	43293	43548	44413	48143							
700	36698	43548	44413	48143							
600	33904	37438	44413	44583	48949						
500	33904	33966	38178	44583	45389	49755					
400	28794	33966	34608	38918	40389	46195	50451	51258			
300	23174	23676	29038	29620	36059	36745	46481	47288	51544		
200	22025	22498	22972	22355	22829	30784	31366	38118	38804	39490	49706
100	15458	15890	20553	20985	21418	21850	24146	27688	33974	34660	41086
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum**Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	11132	11191	12158								
800	11132	11191	11400	12355							
700	9498	11191	11400	12355							
600	8889	9678	11400	11465	12553						
500	8889	8907	9857	11465	11663	12750					
400	7619	8907	9076	10037	10413	11860	12918	13115			
300	6246	6384	7712	7867	9345	9515	11928	12125	13183		
200	5933	6060	6188	6045	6173	8176	8331	9854	10023	10193	12718
100	4284	4400	5576	5693	5809	5925	6564	7316	8833	9003	10535
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Total Value Flowing Gas Well with Dehydrator and with Tanks

The basic equipment for a flowing gas well with a dehydrator and with oil storage tanks includes:

Wellhead
Production Unit
Dehydrator

300 Barrel Oil Storage Tanks with Stairway
Flow lines - 600'

**Very Good
MCF**

850	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800
750	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800
650	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800
550	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800
450	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800
350	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800
250	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800
150	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800
60	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800	36800
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
MCF**

850	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660
750	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660
650	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660
550	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660
450	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660
350	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660
250	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660
150	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660
60	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660	19660
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
MCF**

850	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690
750	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690
650	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690
550	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690
450	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690
350	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690
250	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690
150	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690
60	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690	5690
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Total Value Flowing Gas Well with Dehydrator and without Tanks

The basic equipment for a flowing gas well with a dehydrator and without oil storage tanks includes:

Wellhead
Production Unit

Dehydrator
Flow lines - 1000'

**Very Good
MCF**

850	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170
750	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170
650	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170
550	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170
450	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170
350	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170
250	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170
150	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170
60	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170	32170
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
MCF**

850	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600
750	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600
650	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600
550	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600
450	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600
350	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600
250	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600
150	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600
60	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600	17600
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
MCF**

850	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560
750	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560
650	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560
550	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560
450	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560
350	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560
250	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560
150	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560
60	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560	4560
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

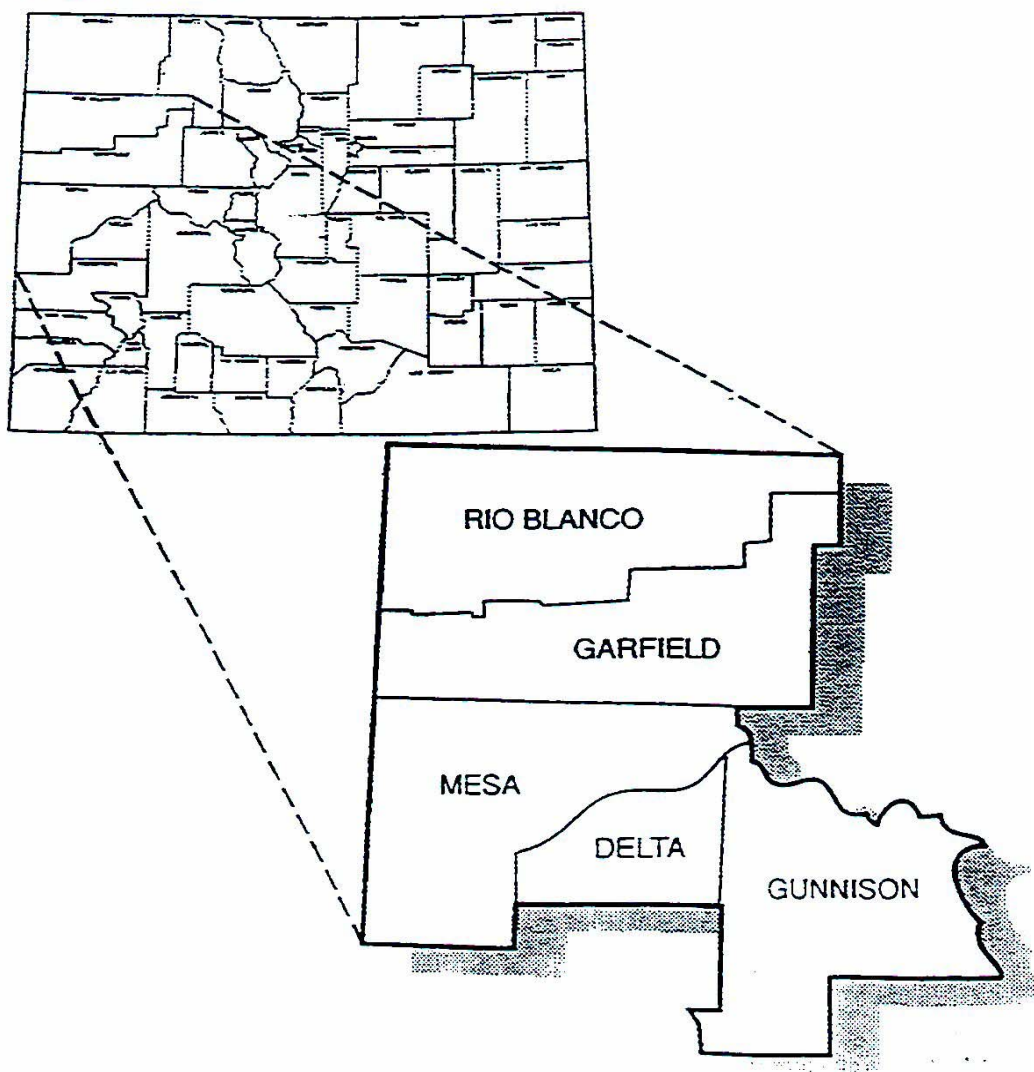
PICEANCE BASIN

The Piceance Basin is located on the western slope. It includes the following counties:

Delta
Garfield
Gunnison

Mesa
Rio Blanco

Piceance Basin



PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well with Tanks (Gas Engine)

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Gas Engine	Rod Pump
Wellhead	400 Barrel Oil Storage Tanks with Stairway
Heater Treater	Flow lines - 600'

**Very Good
Barrels**

900	121307	122266	126203									
800	121307	122266	124096	127865								
700	101321	122266	124096	127865								
600	91142	100692	121956	120465	127388							
500	91142	91968	102204	120465	122128	129050						
400	84702	91968	93244	103715	106888	123790	129063	130725				
300	75884	76836	85526	86690	96795	98194	125203	126865	132138			
200	71770	72680	73590	73460	74370	89018	90182	100993	102393	103792	131853	
100	59175	60040	68875	69740	70605	71470	76736	85486	96013	97412	107096	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

**Average
Barrels**

900	57473	57728	61516									
800	57473	57728	58593	62323								
700	50878	57728	58593	62323								
600	47624	51158	58133	58303	62669							
500	47624	47686	51898	58303	59109	63475						
400	42514	47686	48328	52638	54109	59915	64171	64978				
300	36894	37396	42758	43340	49779	50465	60201	61008	65264			
200	35745	36218	36692	36075	36549	44504	45086	51838	52524	53210	63426	
100	29178	29610	34273	34705	35138	35570	37866	41408	47694	48380	54806	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

**Minimum
Barrels**

900	16012	16071	17038									
800	16012	16071	16280	17235								
700	14378	16071	16280	17235								
600	13659	14448	16170	16235	17323							
500	13659	13677	14627	16235	16433	17520						
400	12389	13677	13846	14807	15183	16630	17688	17885				
300	11016	11154	12482	12637	14115	14285	16698	16895	17953			
200	10703	10830	10958	10815	10943	12946	13101	14624	14793	14963	17488	
100	9054	9170	10346	10463	10579	10695	11334	12086	13603	13773	15305	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well with Tanks (Electric Motor)

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	400 Barrel Oil Storage Tanks with Stairway
Wellhead	Flow lines - 600'
Heater Treater	

Very Good

Barrels

900	112247	114076	118013									
800	112247	114076	115906	119675								
700	95031	114076	115906	119675								
600	86032	94402	113766	113925	119198							
500	86032	87308	95914	113925	115588	120860						
400	80402	87308	88584	97425	100598	117250	122523	124185				
300	72304	73256	81946	83110	92495	93894	118913	120575	125848			
200	68220	69130	70040	70950	71860	85438	86602	96693	98093	99492	125563	
100	57595	58460	66365	67230	68095	68960	74226	81936	92463	93862	102796	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	50683	51548	55336									
800	50683	51548	52413	56143								
700	45328	51548	52413	56143								
600	43014	45608	51953	52233	56489							
500	43014	43656	46348	52233	53039	57295						
400	38804	43656	44298	47088	48559	53845	58101	58908				
300	33684	34186	39548	40130	46069	46755	54651	55458	59714			
200	32655	33128	33602	34075	34549	41294	41876	48128	48814	49500	57876	
100	27298	27730	32273	32705	33138	33570	35866	38318	44604	45290	51096	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	14322	14531	15498									
800	14322	14531	14740	15695								
700	12998	14531	14740	15695								
600	12509	13068	14630	14725	15783							
500	12509	12677	13247	14725	14923	15980						
400	11469	12677	12846	13427	13803	15120	16178	16375				
300	10216	10354	11682	11837	13195	13365	15318	15515	16573			
200	9933	10060	10188	10315	10443	12146	12301	13704	13873	14043	16108	
100	8584	8700	9846	9963	10079	10195	10834	11416	12833	13003	14385	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well without Tanks (Gas Engine)

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit
Gas Engine
Wellhead
Sucker Rods to Depth
Rod Pump
Flow lines - 1000'

Very Good

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	89027	89986	93923								
800	89027	89986	91816	95585							
700	69041	89986	91816	95585							
600	61002	70552	91816	90325	97248						
500	61002	61828	72064	90325	91988	98910					
400	54562	61828	63104	73575	76748	93650	98923	100585			
300	45744	46696	55386	56550	66655	68054	95063	96725	101998		
200	41630	42540	43450	43320	44230	58878	60042	70853	72253	73652	101713
100	29035	29900	38735	39600	40465	41330	46596	55346	65873	67272	76956
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	43293	43548	47336								
800	43293	43548	44413	48143							
700	36698	43548	44413	48143							
600	33904	37438	44413	44583	48949						
500	33904	33966	38178	44583	45389	49755					
400	28794	33966	34608	38918	40389	46195	50451	51258			
300	23174	23676	29038	29620	36059	36745	46481	47288	51544		
200	22025	22498	22972	22355	22829	30784	31366	38118	38804	39490	49706
100	15458	15890	20553	20985	21418	21850	24146	27688	33974	34660	41086
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	11132	11191	12158								
800	11132	11191	11400	12355							
700	9498	11191	11400	12355							
600	8889	9678	11400	11465	12553						
500	8889	8907	9857	11465	11663	12750					
400	7619	8907	9076	10037	10413	11860	12918	13115			
300	6246	6384	7712	7867	9345	9515	11928	12125	13183		
200	5933	6060	6188	6045	6173	8176	8331	9854	10023	10193	12718
100	4284	4400	5576	5693	5809	5925	6564	7316	8833	9003	10535
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well without Tanks (Electric Motor)

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	Flow lines - 1000'
Wellhead	

Very Good

Barrels

900	79967	81796	85733									
800	79967	81796	83626	87395								
700	62751	81796	83626	87395								
600	55892	64262	83626	83785	89058							
500	55892	57168	65774	83785	85448	90720						
400	50262	57168	58444	67285	70458	87110	92383	94045				
300	42164	43116	51806	52970	62355	63754	88773	90435	95708			
200	38080	38990	39900	40810	41720	55298	56462	66553	67953	69352	95423	
100	27455	28320	36225	37090	37955	38820	44086	51796	62323	63722	72656	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	36503	37368	41156									
800	36503	37368	38233	41963								
700	31148	37368	38233	41963								
600	29294	31888	38233	38513	42769							
500	29294	29936	32628	38513	39319	43575						
400	25084	29936	30578	33368	34839	40125	44381	45188				
300	19964	20466	25828	26410	32349	33035	40931	41738	45994			
200	18935	19408	19882	20355	20829	27574	28156	34408	35094	35780	44156	
100	13578	14010	18553	18985	19418	19850	22146	24598	30884	31570	37376	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	9442	9651	10618									
800	9442	9651	9860	10815								
700	8118	9651	9860	10815								
600	7739	8298	9860	9955	11013							
500	7739	7907	8477	9955	10153	11210						
400	6699	7907	8076	8657	9033	10350	11408	11605				
300	5446	5584	6912	7067	8425	8595	10548	10745	11803			
200	5163	5290	5418	5545	5673	7376	7531	8934	9103	9273	11338	
100	3814	3930	5076	5193	5309	5425	6064	6646	8063	8233	9615	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Shallow Pumping Oil Well without Tanks (Electric Motor)

The basic equipment for a shallow pumping oil well without oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Electric Motor	Rod Pump
Control Panel	Flow lines - 1000'
Wellhead	

Very Good

Barrels

900				
800				
700				
600				
500	32575	33440	43925	44790
400	29305	30170	38095	38960
300	22265	30170	31035	35170
200	22265	23130	31035	31900
100	22265	23130	23995	24860
	500	1000	1500	2000

Depth

Average

Barrels

900				
800				
700				
600				
500	16883	17315	21888	22320
400	15093	15525	17748	18180
300	10983	15525	15958	17350
200	10983	11415	15958	16390
100	10983	11415	11848	12280
	500	1000	1500	2000

Depth

Minimum

Barrels

900				
800				
700				
600				
500	4386	4503	6909	7025
400	4386	4503	5869	5985
300	3116	4503	4619	4945
200	3116	3233	4619	4735
100	3116	3233	3349	3465
	500	1000	1500	2000

Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Oil Well with Tanks

The basic equipment for a flowing oil well with oil storage tanks includes:

Wellhead
Heater Treater
400 Barrel Oil Storage Tanks with Stairway
Flow lines - 600'

Very Good **Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	40190	40190	40190	40190	40190	40190	40190	40190	40190	40190	40190
800	40190	40190	40190	40190	40190	40190	40190	40190	40190	40190	40190
700	40190	40190	40190	40190	40190	40190	40190	40190	40190	40190	40190
600	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050
500	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050
400	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050
300	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050
200	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050
100	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050	38050
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average **Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	18100	18100	18100	18100	18100	18100	18100	18100	18100	18100	18100
800	18100	18100	18100	18100	18100	18100	18100	18100	18100	18100	18100
700	18100	18100	18100	18100	18100	18100	18100	18100	18100	18100	18100
600	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640
500	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640
400	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640
300	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640
200	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640
100	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640	17640
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum **Barrels**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	6030	6030	6030	6030	6030	6030	6030	6030	6030	6030	6030
800	6030	6030	6030	6030	6030	6030	6030	6030	6030	6030	6030
700	6030	6030	6030	6030	6030	6030	6030	6030	6030	6030	6030
600	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920
500	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920
400	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920
300	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920
200	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920
100	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920	5920
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Oil Well with Tanks without Heater Treater

The basic equipment for a flowing oil well with oil storage tanks without heater treater includes:

Wellhead
400 Barrel Oil Storage Tanks with Stairway
Flow lines - 600'

Very Good Barrels

900	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750
800	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750
700	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750
600	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750
500	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750
400	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750
300	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750
200	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750
100	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750	25750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average Barrels

900	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700
800	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700
700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700
600	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700
500	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700
400	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700
300	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700
200	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700
100	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700	9700
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum Barrels

900	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930
800	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930
700	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930
600	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930
500	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930
400	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930
300	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930
200	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930
100	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930	3930
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Oil Well without Tanks

The basic equipment for a flowing oil well without oil storage tanks includes:

Wellhead
Flow lines - 1000'

Very Good

Barrels

900	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
800	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
700	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
600	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
500	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
400	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
300	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
200	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
100	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Average

Barrels

900	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
800	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
700	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
600	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
500	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
400	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
300	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
200	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
100	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Minimum

Barrels

900	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
800	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
700	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
600	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
500	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
400	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
300	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
200	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
100	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well with Tank (Gas Engine)

The basic equipment for a pumping gas well with oil storage tank includes:

Pumping Unit	Rod Pump
Gas Engine	Production Unit
Wellhead	400 Barrel Oil Storage Tank with Stairway
Sucker Rods to Depth	Flow lines - 600'

Very Good

Barrels

900	107967	108926	112863									
800	107967	108926	110756	114525								
700	87981	108926	110756	114525								
600	79942	89492	110756	109265	116188							
500	79942	80768	91004	109265	110928	117850						
400	73502	80768	82044	92515	95688	112590	117863	119525				
300	64684	65636	74326	75490	85595	86994	114003	115665	120938			
200	60570	61480	62390	62260	63170	77818	78982	89793	91193	92592	120653	
100	47975	48840	57675	58540	59405	60270	65536	74286	84813	86212	95896	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Average

Barrels

900	51503	51758	55546									
800	51503	51758	52623	56353								
700	44908	51758	52623	56353								
600	42114	45648	52623	52793	57159							
500	42114	42176	46388	52793	53599	57965						
400	37004	42176	42818	47128	48599	54405	58661	59468				
300	31384	31886	37248	37830	44269	44955	54691	55498	59754			
200	30235	30708	31182	30565	31039	38994	39576	46328	47014	47700	57916	
100	23668	24100	28763	29195	29628	30060	32356	35898	42184	42870	49296	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Minimum

Barrels

900	13842	13901	14868									
800	13842	13901	14110	15065								
700	12208	13901	14110	15065								
600	11599	12388	14110	14175	15263							
500	11599	11617	12567	14175	14373	15460						
400	10329	11617	11786	12747	13123	14570	15628	15825				
300	8956	9094	10422	10577	12055	12225	14638	14835	15893			
200	8643	8770	8898	8755	8883	10886	11041	12564	12733	12903	15428	
100	6994	7110	8286	8403	8519	8635	9274	10026	11543	11713	13245	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well without Tank (Gas Engine)

The basic equipment for a pumping gas well without oil storage tank includes:

Pumping Unit
 Gas Engine
 Wellhead
 Rod Pump
 Flow lines - 1000'
 Sucker Rods to Depth

Very Good

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	89027	89986	93923								
800	89027	89986	91816	95585							
700	69041	89986	91816	95585							
600	61002	70552	91816	90325	97248						
500	61002	61828	72064	90325	91988	98910					
400	54562	61828	63104	73575	76748	93650	98923	100585			
300	45744	46696	55386	56550	66655	68054	95063	96725	101998		
200	41630	42540	43450	43320	44230	58878	60042	70853	72253	73652	101713
100	29035	29900	38735	39600	40465	41330	46596	55346	65873	67272	76956
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	43293	43548	47336								
800	43293	43548	44413	48143							
700	36698	43548	44413	48143							
600	33904	37438	44413	44583	48949						
500	33904	33966	38178	44583	45389	49755					
400	28794	33966	34608	38918	40389	46195	50451	51258			
300	23174	23676	29038	29620	36059	36745	46481	47288	51544		
200	22025	22498	22972	22355	22829	30784	31366	38118	38804	39490	49706
100	15458	15890	20553	20985	21418	21850	24146	27688	33974	34660	41086
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	11132	11191	12158								
800	11132	11191	11400	12355							
700	9498	11191	11400	12355							
600	8889	9678	11400	11465	12553						
500	8889	8907	9857	11465	11663	12750					
400	7619	8907	9076	10037	10413	11860	12918	13115			
300	6246	6384	7712	7867	9345	9515	11928	12125	13183		
200	5933	6060	6188	6045	6173	8176	8331	9854	10023	10193	12718
100	4284	4400	5576	5693	5809	5925	6564	7316	8833	9003	10535
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Plunger Lift Gas Well with Tanks

The basic equipment for a plunger lift gas well with oil storage tanks includes:

Wellhead with Lubricator
Plunger Lift
Production Unit
300 Barrel Oil Storage Tanks with Stairway
Flowlines - 600'

Very Good MCF

850	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
750	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
650	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
550	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
450	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
350	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
250	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
150	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
60	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290	26290
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average MCF

850	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
750	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
650	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
550	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
450	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
350	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
250	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
150	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
60	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500	13500
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum MCF

850	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
750	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
650	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
550	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
450	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
350	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
250	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
60	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150	4150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Plunger Lift Gas Well without Tanks

The basic equipment for a plunger lift gas well without oil storage tanks includes:

Wellhead with Lubricator
Plunger Lift
Production Unit

Flow lines - 1000'

Very Good MCF

850	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
750	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
650	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
550	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
450	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
350	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
250	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
150	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
60	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average MCF

850	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
750	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
650	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
550	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
450	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
350	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
250	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
150	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
60	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560	10560
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum MCF

850	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
750	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
650	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
550	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
450	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
350	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
250	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
150	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
60	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Plunger Lift Gas Well without Tanks or Production Unit

The basic equipment for a plunger lift gas well without oil storage tanks or production unit includes:

Wellhead with Lubricator
Plunger Lift
Flow lines - 1000'

Very Good MCF

850	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750
750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750
650	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750
550	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750
450	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750
350	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750
250	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750
150	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750
60	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750	9750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Average MCF

850	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
750	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
650	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
550	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
450	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
350	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
250	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
150	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
60	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800	4800
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

Minimum MCF

850	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
750	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
650	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
550	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
450	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
350	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
250	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
150	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
60	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370	1370
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Coal Seams Gas Well with Tanks

The basic equipment for a pumping coal seams gas well with water storage tanks includes:

Pumping Unit	Separator
Gas Engine	300 Barrel Water Storage Tanks with Stairway
Wellhead	Meter Run with House
Sucker Rods to Depth	Flow lines - 600'
Rod Pump	Filter Vessel

Very Good

Barrels

900	145907	146866	150803										
800	145907	146866	148696	152465									
700	125921	146866	148696	152465									
600	117882	127432	148696	147205	154128								
500	117882	118708	128944	147205	148868	155790							
400	111442	118708	119984	130455	133628	150530	155803	157465					
300	102624	103576	112266	113430	123535	124934	151943	153605	158878				
200	98510	99420	100330	100200	101110	115758	116922	127733	129133	130532	158593		
100	85915	86780	95615	96480	97345	98210	103476	112226	122753	124152	133836		
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500		
												Depth	

Average

Barrels

900	67703	67958	71746										
800	67703	67958	68823	72553									
700	61108	67958	68823	72553									
600	58314	61848	68823	68993	73359								
500	58314	58376	62588	68993	69799	74165							
400	53204	58376	59018	63328	64799	70605	74861	75668					
300	47584	48086	53448	54030	60469	61155	70891	71698	75954				
200	46435	46908	47382	46765	47239	55194	55776	62528	63214	63900	74116		
100	39868	40300	44963	45395	45828	46260	48556	52098	58384	59070	65496		
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500		
												Depth	

Minimum

Barrels

900	18402	18461	19428										
800	18402	18461	18670	19625									
700	16768	18461	18670	19625									
600	16159	16948	18670	18735	19823								
500	16159	16177	17127	18735	18933	20020							
400	14889	16177	16346	17307	17683	19130	20188	20385					
300	13516	13654	14982	15137	16615	16785	19198	19395	20453				
200	13203	13330	13458	13315	13443	15446	15601	17124	17293	17463	19988		
100	11554	11670	12846	12963	13079	13195	13834	14586	16103	16273	17805		
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500		
												Depth	

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Coal Seams Gas Well without Tanks

The basic equipment for a pumping coal seams gas well without water storage tanks includes:

Pumping Unit	Separator
Gas Engine	Meter Run with House
Wellhead	Flow lines - 1000'
Sucker Rods to Depth	Filter Vessel
Rod Pump	

Very Good

Barrels

900	135387	136346	140283									
800	135387	136346	138176	141945								
700	115401	136346	138176	141945								
600	107362	116912	138176	136685	143608							
500	107362	108188	118424	136685	138348	145270						
400	100922	108188	109464	119935	123108	140010	145283	146945				
300	92104	93056	101746	102910	113015	114414	141423	143085	148358			
200	87990	88900	89810	89680	90590	105238	106402	117213	118613	120012	148073	
100	75395	76260	85095	85960	86825	87690	92956	101706	112233	113632	123316	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	62703	62958	66746									
800	62703	62958	63823	67553								
700	56108	62958	63823	67553								
600	53314	56848	63823	63993	68359							
500	53314	53376	57588	63993	64799	69165						
400	48204	53376	54018	58328	59799	65605	69861	70668				
300	42584	43086	48448	49030	55469	56155	65891	66698	70954			
200	41435	41908	42382	41765	42239	50194	50776	57528	58214	58900	69116	
100	34868	35300	39963	40395	40828	41260	43556	47098	53384	54070	60496	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	15922	15981	16948									
800	15922	15981	16190	17145								
700	14288	15981	16190	17145								
600	13679	14468	16190	16255	17343							
500	13679	13697	14647	16255	16453	17540						
400	12409	13697	13866	14827	15203	16650	17708	17905				
300	11036	11174	12502	12657	14135	14305	16718	16915	17973			
200	10723	10850	10978	10835	10963	12966	13121	14644	14813	14983	17508	
100	9074	9190	10366	10483	10599	10715	11354	12106	13623	13793	15325	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well with Tanks

The basic equipment for a flowing gas well with oil storage tanks includes:

Wellhead
 Production Unit
 400 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

Very Good MCF

850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
750	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
650	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
550	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
450	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
350	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
250	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
150	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
60	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850	26850
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average MCF

850	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
750	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
650	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
550	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
450	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
350	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
250	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
150	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
60	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130	12130
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum MCF

850	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
750	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
650	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
550	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
450	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
350	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
250	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
150	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
60	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860	3860
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well without Tanks

The basic equipment for a flowing gas well without oil storage tanks includes:

Wellhead
Production Unit
Flow lines - 1000'

Very Good MCF

850	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
750	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
650	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
550	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
450	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
350	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
250	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
150	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
60	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560	18560
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average MCF

850	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
750	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
650	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
550	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
450	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
350	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
250	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
150	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
60	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680	9680
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum MCF

850	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
750	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
650	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
550	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
450	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
350	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
250	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
150	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
60	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580	2580
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

PICEANCE BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Gas Well without Tanks or Production Unit**

The basic equipment for a flowing gas well without tanks or production unit includes:

Wellhead
Flow lines - 1000'

**Very Good
MCF**

850	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
750	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
650	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
550	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
450	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
350	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
250	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
150	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
60	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Average
MCF**

850	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
750	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
650	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
550	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
450	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
350	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
250	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
150	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
60	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Minimum
MCF**

850	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
750	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
650	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
550	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
450	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
350	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
250	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
60	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

6.190

Common Tank Battery

The basic equipment for a common tank battery includes:

400 Barrel Oil Storage Tanks with Stairway

Heater Treaters

Recycle Pump

Separators

Manifolds and Headers

Very Good

Tanks

10	96530	110970	115780	125410	130220	135030	149470	154280
9	86980	101420	106230	115860	120670	125480	139920	144730
8	77430	91870	96680	106310	111120	115930	130370	135180
7	67880	82320	87130	96760	101570	106380	120820	125630
6	58330	70630	75440	82930	87740	92550	104850	109660
5	48780	61080	65890	73380	78190	83000	95300	100110
4	39230	51530	56340	63830	68640	73450	85750	90560
3	29680	41980	46790	54280	59090	63900	76200	81010
2	20130	32430	37240	44730	49540	54350	66650	71460
1	9550	22880	27690	35180	39990	44800	57100	61910

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	5890	For Each Skimming Tank	Add	6060
For Each Additional Separator	Add	4810			
For Each Additional Heater/Treater	Add	14440			

Average

Tanks

10	33940	42340	44670	50740	53070	55400	63800	66130
9	30610	39010	41340	47410	49740	52070	60470	62800
8	27280	35680	38010	44080	46410	48740	57140	59470
7	23950	32350	34680	40750	43080	45410	53810	56140
6	20620	28560	30890	36500	38830	41160	49100	51430
5	17290	25230	27560	33170	35500	37830	45770	48100
4	13960	21900	24230	29840	32170	34500	42440	44770
3	10630	18570	20900	26510	28840	31170	39110	41440
2	7300	15240	17570	23180	25510	27840	35780	38110
1	3330	11910	14240	19850	22180	24510	32450	34780

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	2940	For Each Skimming Tank	Add	3330
For Each Additional Separator	Add	2330			
For Each Additional Heater/Treater	Add	8400			

Minimum

Tanks

10	15160	17260	17840	19360	19940	20520	22620	23200
9	13660	15760	16340	17860	18440	19020	21120	21700
8	12160	14260	14840	16360	16940	17520	19620	20200
7	10660	12760	13340	14860	15440	16020	18120	18700
6	9160	11150	11730	13140	13720	14300	16290	16870
5	7660	9650	10230	11640	12220	12800	14790	15370
4	6160	8150	8730	10140	10720	11300	13290	13870
3	4660	6650	7230	8640	9220	9800	11790	12370
2	3160	5150	5730	7140	7720	8300	10290	10870
1	1500	3650	4230	5640	6220	6800	8790	9370

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separators	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	--	-----------------------	--	--	--	--

For Each Additional Tank	Add	1350	For Each Skimming Tank	Add	1200
For Each Additional Separator	Add	580			
For Each Additional Heater/Treater	Add	2100			

Total Value Water Injection Well / Water Disposal Well

The basic equipment for a water injection well includes:

Wellhead
Injection lines - 1000'

**Very Good
Barrels**

900	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
800	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
700	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
600	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
500	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
400	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
300	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
200	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
100	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910	7910
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Average
Barrels**

900	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
800	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
700	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
600	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
500	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
400	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
300	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
200	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
100	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920	3920
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Minimum
Barrels**

900	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
800	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
700	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
600	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
500	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
400	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
300	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
200	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
100	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150	1150
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS**Total Value ESP Water Supply Well**

The basic equipment for an electric submersible pump water supply well includes:

Transformer	Equalizer
Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flow lines - 1000'

Very Good

Barrels

	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
4100	60695	61510	62325	63140	63955	64770	65585	66400	67215	68030	68845	
3800	55965	56780	57595	58410	59225	60040	60855	61670	62485	63300	64115	
3400	52040	52790	53540	54290	55040	55790	56540	57290	58040	58790	59540	
2800	50960	51710	52460	53210	53960	54710	55460	56210	56960	57710	58460	
2300	47185	47935	48685	49435	50185	50935	51685	52435	53185	53935	54685	
1900	46280	47030	47780	48530	49280	50030	50780	51530	52280	53030	53780	
1600	43490	44240	44990	45740	46490	47240	47990	48740	49490	50240	50990	
1100	38640	39390	40140	40890	41640	42390	43140	43890	44640	45390	46140	
800	34570	38320	39070	39820	40570	41320	42070	42820	43570	44320	45070	45820
600	32410	36160	36910	37660	38410	39160	39910	40660	41410	42160	42910	43660
350	31970	35720	36470	37220	37970	38720	39470	40220	40970	41720	42470	43220
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth											

Average

Barrels

	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
4100	40330	40900	41470	42040	42610	43180	43750	44320	44890	45460	46030	
3800	35700	36270	36840	37410	37980	38550	39120	39690	40260	40830	41400	
3400	32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205	
2800	32955	33480	34005	34530	35055	35580	36105	36630	37155	37680	38205	
2300	29765	30290	30815	31340	31865	32390	32915	33440	33965	34490	35015	
1900	27655	28180	28705	29230	29755	30280	30805	31330	31855	32380	32905	
1600	25745	26270	26795	27320	27845	28370	28895	29420	29945	30470	30995	
1100	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010	27535	
800	19660	22285	22810	23335	23860	24385	24910	25435	25960	26485	27010	27535
600	18670	21295	21820	22345	22870	23395	23920	24445	24970	25495	26020	26545
350	18150	20775	21300	21825	22350	22875	23400	23925	24450	24975	25500	26025
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth											

Minimum

Barrels

	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
4100	9485	9630	9775	9920	10065	10210	10355	10500	10645	10790	10935	
3800	8965	9110	9255	9400	9545	9690	9835	9980	10125	10270	10415	
3400	8250	8380	8510	8640	8770	8900	9030	9160	9290	9420	9550	
2800	8040	8170	8300	8430	8560	8690	8820	8950	9080	9210	9340	
2300	7450	7580	7710	7840	7970	8100	8230	8360	8490	8620	8750	
1900	6930	7060	7190	7320	7450	7580	7710	7840	7970	8100	8230	
1600	6460	6590	6720	6850	6980	7110	7240	7370	7500	7630	7760	
1100	5580	5710	5840	5970	6100	6230	6360	6490	6620	6750	6880	
800	4820	5470	5600	5730	5860	5990	6120	6250	6380	6510	6640	6770
600	4690	5340	5470	5600	5730	5860	5990	6120	6250	6380	6510	6640
350	4550	5200	5330	5460	5590	5720	5850	5980	6110	6240	6370	6500
	1000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth											

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Water Supply Well (Gas Engine)

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods to Depth
Wellhead	Rod Pump
Gas Engine	Flow lines - 1000'

Very Good Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	89027	89986	93923								
800	89027	89986	91816	95585							
700	69041	89986	91816	95585							
600	61002	70552	91816	90325	97248						
500	61002	61828	72064	90325	91988	98910					
400	54562	61828	63104	73575	76748	93650	98923	100585			
300	45744	46696	55386	56550	66655	68054	95063	96725	101998		
200	41630	42540	43450	43320	44230	58878	60042	70853	72253	73652	101713
100	29035	29900	38735	39600	40465	41330	46596	55346	65873	67272	76956

Depth

Average Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	43293	43548	47336								
800	43293	43548	44413	48143							
700	36698	43548	44413	48143							
600	33904	37438	44413	44583	48949						
500	33904	33966	38178	44583	45389	49755					
400	28794	33966	34608	38918	40389	46195	50451	51258			
300	23174	23676	29038	29620	36059	36745	46481	47288	51544		
200	22025	22498	22972	22355	22829	30784	31366	38118	38804	39490	49706
100	15458	15890	20553	20985	21418	21850	24146	27688	33974	34660	41086

Depth

Minimum Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	11132	11191	12158								
800	11132	11191	11400	12355							
700	9498	11191	11400	12355							
600	8889	9678	11400	11465	12553						
500	8889	8907	9857	11465	11663	12750					
400	7619	8907	9076	10037	10413	11860	12918	13115			
300	6246	6384	7712	7867	9345	9515	11928	12125	13183		
200	5933	6060	6188	6045	6173	8176	8331	9854	10023	10193	12718
100	4284	4400	5576	5693	5809	5925	6564	7316	8833	9003	10535

Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Water Supply Well (Electric Motor)

The basic equipment for a pumping water supply well includes:

Pumping Unit	Sucker Rods to Depth
Wellhead	Rod Pump
Electric Motor	Flow lines - 1000'
Control Panel	

Very Good

Barrels

900	79967	81796	85733									
800	79967	81796	83626	87395								
700	62751	81796	83626	87395								
600	55892	64262	83626	83785	89058							
500	55892	57168	65774	83785	85448	90720						
400	50262	57168	58444	67285	70458	87110	92383	94045				
300	42164	43116	51806	52970	62355	63754	88773	90435	95708			
200	38080	38990	39900	40810	41720	55298	56462	66553	67953	69352	95423	
100	27455	28320	36225	37090	37955	38820	44086	51796	62323	63722	72656	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	36503	37368	41156									
800	36503	37368	38233	41963								
700	31148	37368	38233	41963								
600	29294	31888	38233	38513	42769							
500	29294	29936	32628	38513	39319	43575						
400	25084	29936	30578	33368	34839	40125	44381	45188				
300	19964	20466	25828	26410	32349	33035	40931	41738	45994			
200	18935	19408	19882	20355	20829	27574	28156	34408	35094	35780	44156	
100	13578	14010	18553	18985	19418	19850	22146	24598	30884	31570	37376	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	9442	9651	10618									
800	9442	9651	9860	10815								
700	8118	9651	9860	10815								
600	7739	8298	9860	9955	11013							
500	7739	7907	8477	9955	10153	11210						
400	6699	7907	8076	8657	9033	10350	11408	11605				
300	5446	5584	6912	7067	8425	8595	10548	10745	11803			
200	5163	5290	5418	5545	5673	7376	7531	8934	9103	9273	11338	
100	3814	3930	5076	5193	5309	5425	6064	6646	8063	8233	9615	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS**RANGELY OIL FIELD PRODUCTION****ESP Oil Well**

The basic equipment for an ESP oil well includes:

Transformer	Equalizer
Electric Submersible Pump	Switchboard
Electric Motor	Electric Cable to Depth
Wellhead	Flowlines - 1,500'

**Very Good
Barrels**

6000	101439
5600	100239
4900	88199
4100	83089
3800	78359
3400	74200
2800	73120
2300	69345
1900	68440
1600	65650
1100	60800
800	60480
600	58320
350	57880

5300
Depth

**Average
Barrels**

6000	54280
5600	53550
4900	46320
4100	43830
3800	41740
3400	39380
2800	38550
2300	36190
1900	34830
1600	32920
1100	29460
800	29020
600	28470
350	27950

5300
Depth

**Minimum
Barrels**

6000	14807
5600	14918
4900	12817
4100	12197
3800	11677
3400	10928
2800	10718
2300	10128
1900	9788
1600	9318
1100	8438
800	8328
600	8198
350	8058

5300
Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS**RANGELY OIL FIELD PRODUCTION****Pumping Oil Well**

The basic equipment for a pumping oil well includes:

Pumping Unit
 Electric Motor
 Wellhead
 Sucker Rods to Depth
 Rod Pump
 Flowlines - 1,500'

**Very Good
Barrels**

6000	84462
5600	84462
4900	84462
4100	84462
3800	84462
3400	84462
2800	84462
2300	84462
1900	84462
1600	84462
1100	84462
800	84462
600	84462
350	84462

5300
Depth

**Average
Barrels**

6000	41231
5600	41231
4900	41231
4100	41231
3800	41231
3400	41231
2800	41231
2300	41231
1900	41231
1600	41231
1100	41231
800	41231
600	41231
350	41231

5300
Depth

**Minimum
Barrels**

6000	10445
5600	10445
4900	10445
4100	10445
3800	10445
3400	10445
2800	10445
2300	10445
1900	10445
1600	10445
1100	10445
800	10445
600	10445
350	10445

5300
Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS**RANGELY OIL FIELD PRODUCTION****CO2/Water Injection Well**

The basic equipment for a CO2/water injection well includes:

Wellhead
Injection lines - 3000'

**Very Good
Barrels**

6000	28500
5600	28500
4900	28500
4100	28500
3800	28500
3400	28500
2800	28500
2300	28500
1900	28500
1600	28500
1100	28500
800	28500
600	28500
350	28500

5300
Depth

**Average
Barrels**

6000	14010
5600	14010
4900	14010
4100	14010
3800	14010
3400	14010
2800	14010
2300	14010
1900	14010
1600	14010
1100	14010
800	14010
600	14010
350	14010

5300
Depth

**Minimum
Barrels**

6000	3500
5600	3500
4900	3500
4100	3500
3800	3500
3400	3500
2800	3500
2300	3500
1900	3500
1600	3500
1100	3500
800	3500
600	3500
350	3500

5300
Depth

PICEANCE BASIN BASIC EQUIPMENT LISTS**RANGELY OIL FIELD PRODUCTION****Water Injection Well**

The basic equipment for a water injection well includes:

Wellhead
Flow lines -1500'

**Very Good
Barrels**

6000	23850
5600	23850
4900	23850
4100	23850
3800	23850
3400	23850
2800	23850
2300	23850
1900	23850
1600	23850
1100	23850
800	23850
600	23850
350	23850

5300
Depth

**Average
Barrels**

6000	10770
5600	10770
4900	10770
4100	10770
3800	10770
3400	10770
2800	10770
2300	10770
1900	10770
1600	10770
1100	10770
800	10770
600	10770
350	10770

5300
Depth

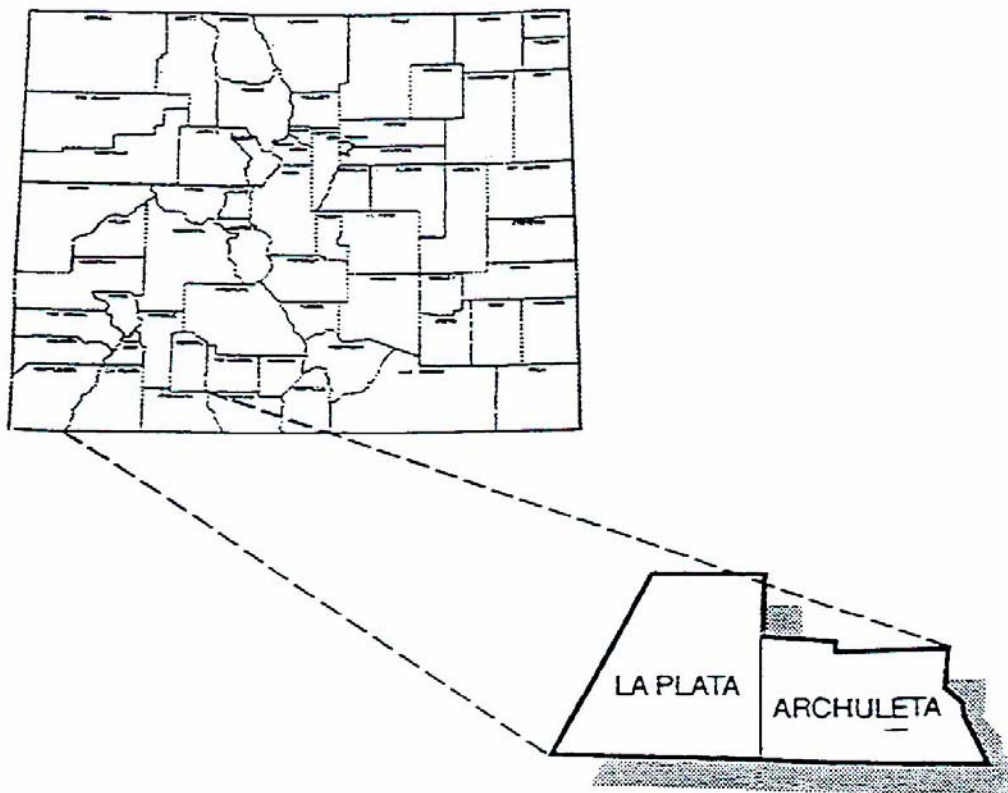
**Minimum
Barrels**

6000	2690
5600	2690
4900	2690
4100	2690
3800	2690
3400	2690
2800	2690
2300	2690
1900	2690
1600	2690
1100	2690
800	2690
600	2690
350	2690

5300
Depth

SAN JUAN BASIN

The San Juan Basin reaches into the southwest part of the state.
It includes the following counties:

Archuleta**La Plata****San Juan Basin**

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well with Tanks (Gas Engine)

The basic equipment for a pumping oil well with oil storage tanks includes:

Pumping Unit	Sucker Rods to Depth
Gas Engine	Rod Pump
Wellhead	300 Barrel Oil Storage Tanks with Stairway
Heater Treater	Flow lines - 600'

Very Good

Barrels

900	129017	129976	133913								
800	129017	129976	131806	135575							
700	109031	129976	131806	135575							
600	98852	108402	129666	128175	135098						
500	98852	99678	109914	128175	129838	136760					
400	92412	99678	100954	111425	114598	131500	136773	138435			
300	83594	84546	93236	94400	104505	105904	132913	134575	139848		
200	79480	80390	81300	81170	82080	96728	97892	108703	110103	111502	139563
100	66885	67750	76585	77450	78315	79180	84446	93196	103723	105122	114806
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Average

Barrels

900	62893	63148	66936								
800	62893	63148	64013	67743							
700	56298	63148	64013	67743							
600	53044	56578	63553	63723	68089						
500	53044	53106	57318	63723	64529	68895					
400	47934	53106	53748	58058	59529	65335	69591	70398			
300	42314	42816	48178	48760	55199	55885	65621	66428	70684		
200	41165	41638	42112	41495	41969	49924	50506	57258	57944	58630	68846
100	34598	35030	39693	40125	40558	40990	43286	46828	53114	53800	60226
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

Minimum

Barrels

900	17092	17151	18118								
800	17092	17151	17360	18315							
700	15458	17151	17360	18315							
600	14739	15528	17250	17315	18403						
500	14739	14757	15707	17315	17513	18600					
400	13469	14757	14926	15887	16263	17710	18768	18965			
300	12096	12234	13562	13717	15195	15365	17778	17975	19033		
200	11783	11910	12038	11895	12023	14026	14181	15704	15873	16043	18568
100	10134	10250	11426	11543	11659	11775	12414	13166	14683	14853	16385
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Oil Well without Tanks (Gas Engine)

The basic equipment for a pumping oil well without oil storage tanks includes:

Pumping Unit
 Gas Engine
 Wellhead
 Sucker Rods to Depth
 Rod Pump
 Flow lines - 1000'

Very Good

Barrels

900	104057	105016	108953									
800	104057	105016	106846	110615								
700	84071	105016	106846	110615								
600	76032	85582	106846	105355	112278							
500	76032	76858	87094	105355	107018	113940						
400	69592	76858	78134	88605	91778	108680	113953	115615				
300	60774	61726	70416	71580	81685	83084	110093	111755	117028			
200	56660	57570	58480	58350	59260	73908	75072	85883	87283	88682	116743	
100	44065	44930	53765	54630	55495	56360	61626	70376	80903	82302	91986	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Average

Barrels

900	49493	49748	53536									
800	49493	49748	50613	54343								
700	42898	49748	50613	54343								
600	40104	43638	50613	50783	55149							
500	40104	40166	44378	50783	51589	55955						
400	34994	40166	40808	45118	46589	52395	56651	57458				
300	29374	29876	35238	35820	42259	42945	52681	53488	57744			
200	28225	28698	29172	28555	29029	36984	37566	44318	45004	45690	55906	
100	21658	22090	26753	27185	27618	28050	30346	33888	40174	40860	47286	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

Minimum

Barrels

900	12512	12571	13538									
800	12512	12571	12780	13735								
700	10878	12571	12780	13735								
600	10269	11058	12780	12845	13933							
500	10269	10287	11237	12845	13043	14130						
400	8999	10287	10456	11417	11793	13240	14298	14495				
300	7626	7764	9092	9247	10725	10895	13308	13505	14563			
200	7313	7440	7568	7425	7553	9556	9711	11234	11403	11573	14098	
100	5664	5780	6956	7073	7189	7305	7944	8696	10213	10383	11915	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
												Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Oil Well with Tanks

The basic equipment for a flowing oil well with oil storage tanks includes:

Wellhead
 Heater Treater
 300 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

Very Good

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	47900	47900	47900	47900	47900	47900	47900	47900	47900	47900	47900
800	47900	47900	47900	47900	47900	47900	47900	47900	47900	47900	47900
700	47900	47900	47900	47900	47900	47900	47900	47900	47900	47900	47900
600	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760
500	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760
400	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760
300	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760
200	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760
100	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760	45760

Depth

Average

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	23520	23520	23520	23520	23520	23520	23520	23520	23520	23520	23520
800	23520	23520	23520	23520	23520	23520	23520	23520	23520	23520	23520
700	23520	23520	23520	23520	23520	23520	23520	23520	23520	23520	23520
600	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060
500	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060
400	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060
300	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060
200	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060
100	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060	23060

Depth

Minimum

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	7110	7110	7110	7110	7110	7110	7110	7110	7110	7110	7110
800	7110	7110	7110	7110	7110	7110	7110	7110	7110	7110	7110
700	7110	7110	7110	7110	7110	7110	7110	7110	7110	7110	7110
600	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
500	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
400	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
300	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
200	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
100	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000

Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Oil Well without Tanks

The basic equipment for a flowing oil well without oil storage tanks includes:

Wellhead
Flow lines - 1000'

Very Good

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
800	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
700	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
600	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
500	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
400	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
300	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
200	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
100	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940

Depth

Average

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
800	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
700	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
600	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
500	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
400	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
300	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
200	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
100	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120

Depth

Minimum

Barrels

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
900	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
800	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
700	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
600	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
500	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
400	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
300	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
200	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
100	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530

Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well with Tank (Gas Engine)

The basic equipment for a pumping gas well with oil storage tank includes:

Pumping Unit	Rod Pump
Gas Engine	Production Unit
Wellhead	300 Barrel Oil Storage Tank with Stairway
Sucker Rods to Depth	Flow lines - 600'

Very Good

Barrels

900	119337	120296	124233									
800	120607	121566	123396	127165								
700	100621	121566	123396	127165								
600	92582	102132	123396	121905	128828							
500	92582	93408	103644	121905	123568	130490						
400	86142	93408	94684	105155	108328	125230	130503	132165				
300	77324	78276	86966	88130	98235	99634	126643	128305	133578			
200	73210	74120	75030	74900	75810	90458	91622	102433	103833	105232	133293	
100	60615	61480	70315	71180	72045	72910	78176	86926	97453	98852	108536	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

Average

Barrels

900	58053	58308	61356									
800	58053	58308	59173	62903								
700	51458	58308	59173	62903								
600	48664	52198	59173	59343	63709							
500	48664	48726	52938	59343	60149	64515						
400	43554	48726	49368	53678	55149	60955	65211	66018				
300	37934	38436	43798	44380	50819	51505	61241	62048	66304			
200	36785	37258	37732	37115	37589	45544	46126	52878	53564	54250	64466	
100	30218	30650	35313	35745	36178	36610	38906	42448	48734	49420	55846	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

Minimum

Barrels

900	15072	15131	16098									
800	15072	15131	15340	16295								
700	13438	15131	15340	16295								
600	12829	13618	15340	15405	16493							
500	12829	12847	13797	15405	15603	16690						
400	11559	12847	13016	13977	14353	15800	16858	17055				
300	10186	10324	11652	11807	13285	13455	15868	16065	17123			
200	9873	10000	10128	9985	10113	12116	12271	13794	13963	14133	16658	
100	8224	8340	9516	9633	9749	9865	10504	11256	12773	12943	14475	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	

Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Gas Well without Tank (Gas Engine)

The basic equipment for a pumping gas well without oil storage tank includes:

Pumping Unit
 Gas Engine
 Wellhead
 Rod Pump
 Flow lines - 1000'
 Sucker Rods to Depth

Very Good

Barrels

900	104057	105016	108953									
800	104057	105016	106846	110615								
700	84071	105016	106846	110615								
600	76032	85582	106846	105355	112278							
500	76032	76858	87094	105355	107018	113940						
400	69592	76858	78134	88605	91778	108680	113953	115615				
300	60774	61726	70416	71580	81685	83084	110093	111755	117028			
200	56660	57570	58480	58350	59260	73908	75072	85883	87283	88682	116743	
100	44065	44930	53765	54630	55495	56360	61626	70376	80903	82302	91986	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Average

Barrels

900	49493	49748	53536									
800	49493	49748	50613	54343								
700	42898	49748	50613	54343								
600	40104	43638	50613	50783	55149							
500	40104	40166	44378	50783	51589	55955						
400	34994	40166	40808	45118	46589	52395	56651	57458				
300	29374	29876	35238	35820	42259	42945	52681	53488	57744			
200	28225	28698	29172	28555	29029	36984	37566	44318	45004	45690	55906	
100	21658	22090	26753	27185	27618	28050	30346	33888	40174	40860	47286	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

Minimum

Barrels

900	12512	12571	13538									
800	12512	12571	12780	13735								
700	10878	12571	12780	13735								
600	10269	11058	12780	12845	13933							
500	10269	10287	11237	12845	13043	14130						
400	8999	10287	10456	11417	11793	13240	14298	14495				
300	7626	7764	9092	9247	10725	10895	13308	13505	14563			
200	7313	7440	7568	7425	7553	9556	9711	11234	11403	11573	14098	
100	5664	5780	6956	7073	7189	7305	7944	8696	10213	10383	11915	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well with Tanks

The basic equipment for a flowing gas well with oil storage tanks includes:

Wellhead
 Production Unit
 300 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

Very Good**MCF**

850	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220
750	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220
650	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220
550	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220
450	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220
350	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220
250	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220
150	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220
60	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220	38220
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Average****MCF**

850	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940
750	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940
650	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940
550	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940
450	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940
350	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940
250	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940
150	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940
60	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940	17940
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Minimum****MCF**

850	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090
750	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090
650	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090
550	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090
450	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090
350	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090
250	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090
150	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090
60	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090	5090
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well without Tanks

The basic equipment for a flowing gas well without oil storage tanks includes:

Wellhead
Production Unit
Flow lines - 1000'

Very Good**MCF**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
850	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590
750	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590
650	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590
550	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590
450	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590
350	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590
250	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590
150	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590
60	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590	33590

Depth**Average****MCF**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
850	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880
750	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880
650	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880
550	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880
450	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880
350	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880
250	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880
150	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880
60	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880	15880

Depth**Minimum****MCF**

	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
850	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960
750	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960
650	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960
550	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960
450	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960
350	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960
250	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960
150	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960
60	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960	3960

Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well without Tanks or Production Unit

The basic equipment for a flowing gas well without tanks or production unit includes:

Wellhead
Flow lines - 1000'

Very Good

MCF

850	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
750	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
650	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
550	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
450	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
350	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
250	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
150	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
60	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940	22940
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average

MCF

850	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
750	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
650	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
550	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
450	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
350	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
250	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
150	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
60	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120	10120
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum

MCF

850	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
750	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
650	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
550	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
450	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
350	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
250	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
150	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
60	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530	2530
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well with Dehydrator with Tanks

The basic equipment for a flowing gas well with oil storage tanks and a dehydrator includes:

Wellhead
 Production Unit
 Dehydrator
 300 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

**Very Good
MCF**

850	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830
750	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830
650	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830
550	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830
450	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830
350	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830
250	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830
150	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830
60	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830	51830
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

**Average
MCF**

850	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860
750	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860
650	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860
550	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860
450	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860
350	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860
250	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860
150	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860
60	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860	25860
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

**Minimum
MCF**

850	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070
750	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070
650	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070
550	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070
450	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070
350	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070
250	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070
150	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070
60	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070	7070
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Gas Well with Dehydrator and without Tanks

The basic equipment for a flowing gas well without oil storage tanks but with a dehydrator includes:

Wellhead
 Production Unit
 Dehydrator
 Flow lines - 1000'

Very Good**MCF**

850	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200
750	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200
650	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200
550	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200
450	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200
350	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200
250	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200
150	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200
60	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200	47200
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Average****MCF**

850	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800
750	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800
650	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800
550	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800
450	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800
350	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800
250	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800
150	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800
60	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800	23800
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth**Minimum****MCF**

850	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940
750	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940
650	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940
550	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940
450	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940
350	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940
250	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940
150	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940
60	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940	5940
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500

Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

6.211

Common Tank Battery

The basic equipment for a common tank battery includes:

300 Barrel Oil Storage Tanks with Stairway

Heater Treaters

Separators

Recycle Pump

Manifolds and Headers

Very Good

Tanks

10	59930	74370	79180	88810	93620	98430	112870	117680
9	54040	68480	73290	82920	87730	92540	106980	111790
8	48150	60450	65260	72750	77560	86650	101090	105900
7	42260	54560	59370	66860	71670	80760	95200	100010
6	36370	48670	53480	60970	65780	70590	82890	87700
5	30480	42780	47590	55080	59890	64700	77000	81810
4	24590	36890	41700	49190	54000	58810	71110	75920
3	18700	31000	35810	43300	48110	52920	65220	70030
2	12810	25110	29920	37410	42220	47030	59330	64140
1	5890	19220	24030	31520	36330	41140	53440	58250

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	5890	For Each Skimming Tank	Add	6060
For Each Additional Separator	Add	4810			
For Each Additional Heater/Treater	Add	14440			

Average

Tanks

10	30040	38440	40770	46840	49170	51500	59900	62230
9	27100	35500	37830	43900	46230	48560	56960	59290
8	24160	32100	34430	40040	42370	45620	54020	56350
7	21220	29160	31490	37100	39430	42680	51080	53410
6	18280	26220	28550	34160	36490	38820	46760	49090
5	15340	23280	25610	31220	33550	35880	43820	46150
4	12400	20340	22670	28280	30610	32940	40880	43210
3	9460	17400	19730	25340	27670	30000	37940	40270
2	6520	14460	16790	22400	24730	27060	35000	37330
1	2940	11520	13850	19460	21790	24120	32060	34390

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separator	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	---------------------------------------	-----------------------	--	--	--	--

For Each Additional Tank	Add	2940	For Each Skimming Tank	Add	3330
For Each Additional Separator	Add	2330			
For Each Additional Heater/Treater	Add	8400			

Minimum

Tanks

10	13660	15760	16340	17860	18440	19020	21120	21700
9	12310	14410	14990	16510	17090	17670	19770	20350
8	10960	12950	13530	14940	15520	16320	18420	19000
7	9610	11600	12180	13590	14170	14970	17070	17650
6	8260	10250	10830	12240	12820	13400	15390	15970
5	6910	8900	9480	10890	11470	12050	14040	14620
4	5560	7550	8130	9540	10120	10700	12690	13270
3	4210	6200	6780	8190	8770	9350	11340	11920
2	2860	4850	5430	6840	7420	8000	9990	10570
1	1350	3500	4080	5490	6070	6650	8640	9220

Tanks only	With 1 Heater Treater	With 1 Heater Treater and 1 Separators	With 2 Heater Treater	With 2 Heater Treater and 1 Separators	With 2 Heater Treater and 2 Separators	With 3 Heater Treater and 2 Separators	With 3 Heater Treater and 3 Separators
------------	-----------------------	--	-----------------------	--	--	--	--

For Each Additional Tank	Add	1350	For Each Skimming Tank	Add	1200
For Each Additional Separator	Add	580			
For Each Additional Heater/Treater	Add	2100			

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Plunger Lift Gas Well with Tanks

The basic equipment for a plunger lift gas well with oil storage tank includes:

Wellhead with Lubricator
 Plunger Lift
 Production Unit
 300 Barrel Oil Storage Tanks with Stairway
 Flow lines - 600'

**Very Good
Barrels**

850	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320
750	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320
650	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320
550	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320
450	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320
350	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320
250	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320
150	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320
60	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320	41320
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Average
Barrels**

850	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700
750	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700
650	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700
550	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700
450	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700
350	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700
250	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700
150	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700
60	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700	19700
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

**Minimum
Barrels**

850	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530
750	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530
650	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530
550	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530
450	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530
350	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530
250	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530
150	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530
60	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530	5530
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
											Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Plunger Lift Gas Well without Tanks

The basic equipment for a plunger lift gas well without oil storage tank includes:

Wellhead with Lubricator

Flow lines - 1000'

Plunger Lift

Production Unit

**Very Good
Barrels**

850	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430
750	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430
650	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430
550	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430
450	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430
350	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430
250	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430
150	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430
60	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430	35430
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
Barrels**

850	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760
750	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760
650	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760
550	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760
450	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760
350	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760
250	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760
150	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760
60	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760	16760
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
Barrels**

850	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180
750	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180
650	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180
550	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180
450	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180
350	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180
250	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180
150	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180
60	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180	4180
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Plunger Lift Gas Well without Tanks & Production Units

The basic equipment for a plunger lift gas well without oil storage tank or production unit includes:

Wellhead with Lubricator
Plunger Lift
Flow lines -1000'

**Very Good
Barrels**

850	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780
750	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780
650	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780
550	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780
450	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780
350	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780
250	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780
150	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780
60	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780	24780
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Average
Barrels**

850	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000
750	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000
650	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000
550	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000
450	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000
350	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000
250	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000
150	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000
60	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000	11000
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

**Minimum
Barrels**

850	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
650	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
550	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
450	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
350	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
250	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
150	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
60	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Coal Seams Gas Well with Tanks

The basic equipment for a pumping coal seams gas well with water storage tanks includes:

Pumping Unit	Separator
Gas Engine	300 Barrel Water Storage Tanks with Stairway
Wellhead	Meter Run with House
Sucker Rods to Depth	Flow lines - 600'
Rod Pump	Filter Vessel

Very Good

Barrels

900	127357	128316	132253	
800	127357	128316	130146	133915
700	107371	128316	130146	133915
600	99332	108882	130146	128655
500	99332	100158	110394	128655
400	92892	100158	101434	111905
300	84074	85026	93716	94880
200	79960	80870	81780	81650
100	67365	68230	77065	77930
	3500	4000	4500	5000

Depth

Average

Barrels

900	60533	60788	64576	
800	60533	60788	61653	65383
700	53938	60788	61653	65383
600	51144	54678	61653	61823
500	51144	51206	55418	61823
400	46034	51206	51848	56158
300	40414	40916	46278	46860
200	39265	39738	40212	39595
100	32698	33130	37793	38225
	3500	4000	4500	5000

Depth

Minimum

Barrels

900	16622	16681	17648	
800	16622	16681	16890	17845
700	14988	16681	16890	17845
600	14379	15168	16890	16955
500	14379	14397	15347	16955
400	13109	14397	14566	15527
300	11736	11874	13202	13357
200	11423	11550	11678	11535
100	9774	9890	11066	11183
	3500	4000	4500	5000

Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Pumping Coal Seams Gas Well without Tanks

The basic equipment for a pumping coal seams gas well without water storage tanks includes:

Pumping Unit	Separator
Gas Engine	Meter Run with House
Wellhead	Flow lines - 1000'
Sucker Rods to Depth	Filter Vessel
Rod Pump	

Very Good

Barrels

900	116837	117796	121733	
800	116837	117796	119626	123395
700	96851	117796	119626	123395
600	88812	98362	119626	118135
500	88812	89638	99874	118135
400	82372	89638	90914	101385
300	73554	74506	83196	84360
200	69440	70350	71260	71130
100	56845	57710	66545	67410
	3500	4000	4500	5000
	Depth			

Average

Barrels

900	55533	55788	59576	
800	55533	55788	56653	60383
700	48938	55788	56653	60383
600	46144	49678	56653	56823
500	46144	46206	50418	56823
400	41034	46206	46848	51158
300	35414	35916	41278	41860
200	34265	34738	35212	34595
100	27698	28130	32793	33225
	3500	4000	4500	5000
	Depth			

Minimum

Barrels

900	14142	14201	15168	
800	14142	14201	14410	15365
700	12508	14201	14410	15365
600	11899	12688	14410	14475
500	11899	11917	12867	14475
400	10629	11917	12086	13047
300	9256	9394	10722	10877
200	8943	9070	9198	9055
100	7294	7410	8586	8703
	3500	4000	4500	5000
	Depth			

SAN JUAN BASIN BASIC EQUIPMENT LISTS**Total Value Flowing Coal Seams Gas Well with Tanks**

The basic equipment for a flowing coal seams gas well without water storage tanks includes:

Wellhead
Separator
Filter Vessel

300 Barrel Water Storage Tanks with Stairway
Flow lines - 600'
Meter Run with House

Very Good**MCF**

850	46240	46240	46240	46240
750	46240	46240	46240	46240
650	46240	46240	46240	46240
550	46240	46240	46240	46240
450	46240	46240	46240	46240
350	46240	46240	46240	46240
250	46240	46240	46240	46240
150	46240	46240	46240	46240
60	46240	46240	46240	46240
	3500	4000	4500	5000

Depth**Average****MCF**

850	21160	21160	21160	21160
750	21160	21160	21160	21160
650	21160	21160	21160	21160
550	21160	21160	21160	21160
450	21160	21160	21160	21160
350	21160	21160	21160	21160
250	21160	21160	21160	21160
150	21160	21160	21160	21160
60	21160	21160	21160	21160
	3500	4000	4500	5000

Depth**Minimum****MCF**

850	6640	6640	6640	6640
750	6640	6640	6640	6640
650	6640	6640	6640	6640
550	6640	6640	6640	6640
450	6640	6640	6640	6640
350	6640	6640	6640	6640
250	6640	6640	6640	6640
150	6640	6640	6640	6640
60	6640	6640	6640	6640
	3500	4000	4500	5000

Depth

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Flowing Coal Seams Gas Well without Tanks

The basic equipment for a flowing coal seams gas well without water storage tanks includes:

Wellhead
 Separator
 Meter Run with House
 Flow lines - 1000'
 Filter Vessel

Very Good

MCF

850	35720	35720	35720	35720
750	35720	35720	35720	35720
650	35720	35720	35720	35720
550	35720	35720	35720	35720
450	35720	35720	35720	35720
350	35720	35720	35720	35720
250	35720	35720	35720	35720
150	35720	35720	35720	35720
60	35720	35720	35720	35720
	3500	4000	4500	5000
	Depth			

Average

MCF

850	16160	16160	16160	16160
750	16160	16160	16160	16160
650	16160	16160	16160	16160
550	16160	16160	16160	16160
450	16160	16160	16160	16160
350	16160	16160	16160	16160
250	16160	16160	16160	16160
150	16160	16160	16160	16160
60	16160	16160	16160	16160
	3500	4000	4500	5000
	Depth			

Minimum

MCF

850	4160	4160	4160	4160
750	4160	4160	4160	4160
650	4160	4160	4160	4160
550	4160	4160	4160	4160
450	4160	4160	4160	4160
350	4160	4160	4160	4160
250	4160	4160	4160	4160
150	4160	4160	4160	4160
60	4160	4160	4160	4160
	3500	4000	4500	5000
	Depth			

SAN JUAN BASIN BASIC EQUIPMENT LISTS

Total Value Gas Lift Coal Seams Gas Well with Tanks

The basic equipment for a gas lift coal seams gas well with water storage tanks includes:

Wellhead	Filter Vessel
Separator	Flow lines - 2,000'
300 Barrel Water Storage Tanks with Stairway	
Meter Run with House	

Very Good

MCF

850	50640	50640	50640	50640
750	50640	50640	50640	50640
650	50640	50640	50640	50640
550	50640	50640	50640	50640
450	50640	50640	50640	50640
350	50640	50640	50640	50640
250	50640	50640	50640	50640
150	50640	50640	50640	50640
60	50640	50640	50640	50640
	3500	4000	4500	5000
	Depth			

Average

MCF

850	24240	24240	24240	24240
750	24240	24240	24240	24240
650	24240	24240	24240	24240
550	24240	24240	24240	24240
450	24240	24240	24240	24240
350	24240	24240	24240	24240
250	24240	24240	24240	24240
150	24240	24240	24240	24240
60	24240	24240	24240	24240
	3500	4000	4500	5000
	Depth			

Minimum

MCF

850	7410	7410	7410	7410
750	7410	7410	7410	7410
650	7410	7410	7410	7410
550	7410	7410	7410	7410
450	7410	7410	7410	7410
350	7410	7410	7410	7410
250	7410	7410	7410	7410
150	7410	7410	7410	7410
60	7410	7410	7410	7410
	3500	4000	4500	5000
	Depth			

SAN JUAN BASIN PROGRESSIVE CAVITY WELL BASIC EQUIPMENT LISTS

Progressive Cavity Coal Seams Gas Well with Tanks (Gas Engine)

The basic equipment for a progressive cavity coal seams gas well with water storage tanks includes:

Wellhead	Gas Engine
Separator	Progressive Cavity Pump
400 Barrel Water Storage Tanks	Sucker Rods to Depth
Flow Lines - 600'	Wellhead Drive
Meter Run with House	Miscellaneous Surface Equipment

Very Good

Barrels

900	73847	75676	77506								
800	73847	75676	77506	77665							
700	71621	75676	77506	77665							
600	69972	73132	77506	77665	79328						
500	69972	71248	74644	77665	79328	80990					
400	56922	58198	59474	63105	75748	77410	79073	80735			
300	54654	55606	58466	59630	72855	74254	79073	80735	82398		
200	54360	55270	56180	57090	67470	71428	72592	77053	78453	79852	85723
100	54045	54910	55775	56640	66975	67840	69836	73756	78453	79852	83156
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Average

Barrels

900	37363	38228	39093								
800	37363	38228	39093	39373							
700	36488	38228	39093	39373							
600	35804	37228	39093	39373	40179						
500	35804	36446	37968	39373	40179	40985					
400	27594	28236	28878	30498	33329	34135	34941	35748			
300	26614	27116	28338	28920	32009	32695	34941	35748	41224		
200	26415	26888	27362	27835	29669	31444	32026	34068	39424	40110	42836
100	26128	26560	26993	27425	29218	29650	30986	32608	39424	40110	41706
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

Minimum

Barrels

900	10732	10941	11048								
800	10732	10941	11150	11359							
700	10528	10941	11150	11245							
600	10449	10708	11150	11245	11443						
500	10449	10617	10887	11245	11443	11640					
400	8409	8577	8746	9027	9743	9940	10138	10335			
300	8196	8334	8622	8777	9435	9605	10138	10335	11693		
200	8123	8250	8378	8505	8973	9426	9581	9944	11273	11443	12088
100	8044	8160	8276	8393	8849	8965	9364	9736	11273	11443	11785
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500
	Depth										

SAN JUAN BASIN PROGRESSIVE CAVITY WELL BASIC EQUIPMENT LISTS

Progressive Cavity Coal Seams Gas Well with Tanks (Electric Motor)

The basic equipment for a progressive cavity coal seams gas well with water storage tanks includes:

Wellhead	Electric Motor
Separator	Progressive Cavity Pump
400 Barrel Water Storage Tanks	Sucker Rods to Depth
Flow Lines - 600'	Wellhead Drive
Meter Run with House	Miscellaneous Surface Equipment

Very Good

Barrels

900	65937	67766	69596									
800	65937	67766	69596	69755								
700	63711	67766	69596	69755								
600	62062	65222	69596	69755	71418							
500	62062	63338	66734	69755	71418	73080						
400	53702	54978	56254	59885	72528	74190	75853	77515				
300	51434	52386	55246	56410	69635	71034	75853	77515	79178			
200	51140	52050	52960	53870	64250	68208	69372	73833	75233	76632	82503	
100	50825	51690	52555	53420	63755	64620	66616	70536	75233	76632	79936	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
	Depth											

Average

Barrels

900	32563	33428	34293									
800	32563	33428	34293	34573								
700	31688	33428	34293	34573								
600	31004	32428	34293	34573	35379							
500	31004	31646	33168	34573	35379	36185						
400	25664	26306	26948	28568	31399	32205	33011	33818				
300	24684	25186	26408	26990	30079	30765	33011	33818	39294			
200	24485	24958	25432	25905	27739	29514	30096	32138	37494	38180	40906	
100	24198	24630	25063	25495	27288	27720	29056	30678	37494	38180	39776	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
	Depth											

Minimum

Barrels

900	9532	9741	9848									
800	9532	9741	9950	10159								
700	9328	9741	9950	10045								
600	9249	9508	9950	10045	10243							
500	9249	9417	9687	10045	10243	10440						
400	7919	8087	8256	8537	9253	9450	9648	9845				
300	7706	7844	8132	8287	8945	9115	9648	9845	11203			
200	7633	7760	7888	8015	8483	8936	9091	9454	10783	10953	11598	
100	7554	7670	7786	7903	8359	8475	8874	9246	10783	10953	11295	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
	Depth											

SAN JUAN BASIN PROGRESSIVE CAVITY WELL BASIC EQUIPMENT LISTS

Progressive Cavity Coal Seams Gas Well without Tanks (Gas Engine)

The basic equipment for a progressive cavity coal seams gas well without water storage tanks includes:

Wellhead	Gas Engine
Separator	Progressive Cavity Pump
Flow Lines - 1000'	Sucker Rods to Depth
Meter Run with House	Wellhead Drive
	Miscellaneous Surface Equipment

Very Good

Barrels

900	56007	57836	59666									
800	56007	57836	59666	59825								
700	53781	57836	59666	59825								
600	52132	55292	59666	59825	61488							
500	52132	53408	56804	59825	61488	63150						
400	39082	40358	41634	45265	57908	59570	61233	62895				
300	36814	37766	40626	41790	55015	56414	61233	62895	64558			
200	36520	37430	38340	39250	49630	53588	54752	59213	60613	62012	67883	
100	36205	37070	37935	38800	49135	50000	51996	55916	60613	62012	65316	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
										Depth		

Average

Barrels

900	31583	32448	33313									
800	31583	32448	33313	33593								
700	30708	32448	33313	33593								
600	30024	31448	33313	33593	34399							
500	30024	30666	32188	33593	34399	35205						
400	21814	22456	23098	24718	27549	28355	29161	29968				
300	20834	21336	22558	23140	26229	26915	29161	29968	35444			
200	20635	21108	21582	22055	23889	25664	26246	28288	33644	34330	37056	
100	20348	20780	21213	21645	23438	23870	25206	26828	33644	34330	35926	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
										Depth		

Minimum

Barrels

900	7952	8161	8268									
800	7952	8161	8370	8579								
700	7748	8161	8370	8465								
600	7669	7928	8370	8465	8663							
500	7669	7837	8107	8465	8663	8860						
400	5629	5797	5966	6247	6963	7160	7358	7555				
300	5416	5554	5842	5997	6655	6825	7358	7555	8913			
200	5343	5470	5598	5725	6193	6646	6801	7164	8493	8663	9308	
100	5264	5380	5496	5613	6069	6185	6584	6956	8493	8663	9005	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
										Depth		

SAN JUAN BASIN PROGRESSIVE CAVITY WELL BASIC EQUIPMENT LISTS

Progressive Cavity Coal Seams Gas Well without Tanks (Electric Motor)

The basic equipment for a progressive cavity coal seams gas well without water storage tanks includes:

Wellhead	Electric Motor
Separator	Progressive Cavity Pump
Flow Lines - 1000'	Sucker Rods to Depth
Meter Run with House	Wellhead Drive
	Miscellaneous Surface Equipment

Very Good

Barrels

900	48097	49926	51756									
800	48097	49926	51756	51915								
700	45871	49926	51756	51915								
600	44222	47382	51756	51915	53578							
500	44222	45498	48894	51915	53578	55240						
400	35862	37138	38414	42045	54688	56350	58013	59675				
300	33594	34546	37406	38570	51795	53194	58013	59675	61338			
200	33300	34210	35120	36030	46410	50368	51532	55993	57393	58792	64663	
100	32985	33850	34715	35580	45915	46780	48776	52696	57393	58792	62096	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
										Depth		

Average

Barrels

900	26783	27648	28513									
800	26783	27648	28513	28793								
700	25908	27648	28513	28793								
600	25224	26648	28513	28793	29599							
500	25224	25866	27388	28793	29599	30405						
400	19884	20526	21168	22788	25619	26425	27231	28038				
300	18904	19406	20628	21210	24299	24985	27231	28038	33514			
200	18705	19178	19652	20125	21959	23734	24316	26358	31714	32400	35126	
100	18418	18850	19283	19715	21508	21940	23276	24898	31714	32400	33996	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
										Depth		

Minimum

Barrels

900	6752	6961	7068									
800	6752	6961	7170	7379								
700	6548	6961	7170	7265								
600	6469	6728	7170	7265	7463							
500	6469	6637	6907	7265	7463	7660						
400	5139	5307	5476	5757	6473	6670	6868	7065				
300	4926	5064	5352	5507	6165	6335	6868	7065	8423			
200	4853	4980	5108	5235	5703	6156	6311	6674	8003	8173	8818	
100	4774	4890	5006	5123	5579	5695	6094	6466	8003	8173	8515	
	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	8500	
										Depth		

This page left blank intentionally.

CHAPTER 7 SPECIAL ISSUES

SPECIAL ADMINISTRATIVE ISSUES

The purpose of this section is to discuss special issues related to personal property administration and valuation. This section will be periodically updated to include new special personal property issues as they arise.

APPORTIONMENT OF VALUE

Apportionment of value is the distribution of taxable value between two or more counties within the state. Apportionment does not affect the total taxable value of the property.

Personal property valuations are apportioned only in the following instances:

- Movable equipment that is apt to be located in more than one county during the current assessment year in the ordinary course of business
- Oil and gas skid-mounted drilling rigs that were located in more than one county during the preceding calendar year

MOVABLE OR PORTABLE EQUIPMENT

The statutory requirements and definitions for movable or portable equipment apportionments are found in § 39-5-113, C.R.S.

County of Original Assessment

All persons owning movable or portable equipment, which in the ordinary course of business is likely to be located in more than one county during the current assessment year, must file the following information with the assessor no later than April 15:

1. Kind, description and serial number of the property
2. Counties where the property will be located or maintained during the year
3. The estimated period of time that the property will be in each county

Note: Excepted from this requirement are owners of oil and gas skid-mounted drilling rigs pursuant to § 39-5-113.3, C.R.S., and owners of special mobile machinery subject to specific ownership tax pursuant to §§ 42-3-103(1) and 106(1)(e), C.R.S.

The taxpayer files this information with the county assessor of the county in which the property was located on January 1 of the current assessment year, or the county in which the property is first located. This county is called the County of Original Assessment (COA).

It is the responsibility of the assessor of the COA to determine the actual and assessed value of the movable property for the entire assessment year. The assessor of the COA is also responsible for making apportionments of value for the other counties listed by the taxpayer. The taxpayer and the other counties must be notified of the actual valuation and the apportioned actual values of the movable equipment. The apportionment is based upon the number of days that the property is estimated to be located in each county.

Auxiliary (Movable) Equipment

Auxiliary equipment typically installed in vans, such as upholstery cleaning equipment, or pulled behind self-propelled drilling rigs, including auxiliary drilling equipment hauled behind self-propelled drilling rigs or by semi-tractor trailers, can present a special apportionment problem. If this property is likely to move between counties, an apportionment should be requested of the owner as required by § 39-5-113, C.R.S. If no apportionment is received from the owner, the apportionment should be based on the last year's county locations, if available. If the owner does not supply this apportionment, the entire value of the equipment should be listed in the County of Original Assessment (COA) until such time as the owner supplies an apportionment. Apportionments based upon current assessment year planned locations are preferred; however, historical locations should be used to apportion value rather than listing the entire value in the COA.

Example:

Subject Property:	Auxiliary Drilling Equipment.	
COA:		Larimer County
Actual value estimate:		\$25,000
Times the Factor to Adjust to Specified Level of Value:		<u>x .91</u>
Adjusted to Specified Level of Value:		\$22,750

Counties and Time Estimates for Each County:

<u>County</u>	<u>Est. Time Property was Located in County</u>
Larimer	45 days
Boulder	65 days
El Paso	120 days
Adams	<u>135 days</u>
	365 days
Actual Value per Day:	\$22,750 -:- 365 = \$62.33

Apportionment of Value to Each County:

Larimer: 45 days	
Apportioned Actual Value: (45 x \$62.33) =	\$ 2,804
Boulder: 65 days	
Apportioned Actual Value: (65 x \$62.33) =	\$ 4,051
El Paso: 120 days	
Apportioned Actual Value: (120 x \$62.33) =	\$ 7,480
Adams: 135 days	
Apportioned Actual Value: (135 x \$62.33) =	<u>\$ 8,415</u>
Total Actual Value: 365 days	<u>\$22,750</u>

Note that this example reflects a typical 365-day year. During leap years, an extra day must be added. The taxpayer and each of the other three counties are notified of the total actual value and the actual value apportioned to each county, as in the example above, by the Larimer County Assessor. The apportioned assessed value of the movable equipment is included on the abstracts of assessment prepared by each of the four counties. The other counties are required to use the total actual value and the apportioned actual value provided by the assessor of the COA. Any protests of the actual value by the taxpayer are made to the COA.

The total of the county apportionments should be compared to the actual value determined by the COA to ensure that they are identical.

Amended Apportionments

If movable property is moved into a county not listed in the original declaration, or if movable property is located in a county for a different length of time than that originally declared, the assessor of any county so affected may request an amended apportionment from the county of original assessment (COA). This must be done whether the time the equipment is located in the county is shorter than or longer than the period of time used in the original apportionment.

The assessor of the COA, upon receipt of such a request for amended apportionment, shall reapportion the value to all affected counties and send an amended NOV to the taxpayer and the counties. The taxpayer and the affected counties must be notified of any amended apportionments. If there is no request for an amended apportionment by a county assessor, the original apportionment shall stand for that assessment year.

It is Division policy that when a change in apportionment occurs prior to December 10, the assessors must re-certify the valuation to the affected taxing jurisdictions pursuant to § 39-1-111(5), C.R.S. If a change in apportionment occurs after December 10, no amended apportionment is made.

OIL AND GAS SKID-MOUNTED DRILLING RIGS

The term "oil and gas skid-mounted drilling rig" means any drilling unit capable of drilling oil and gas wells, except self-propelled rigs subject to the specific ownership tax as required by §§ 42-3-102(1) and 105(1)(f), C.R.S. In addition, the term includes typical auxiliary equipment that is not permanently attached to, but is transported with the rig.

The statutory requirements regarding the apportionment of the valuations of oil and gas skid-mounted drilling rigs are found in § 39-5-113.3, C.R.S. The following procedures are to be used in the valuation of these rigs:

1. County assessors determine those rigs that were operating in their counties during the previous calendar year and mail two DS 656, Oil and Gas Rotary Drilling Rig declaration schedules to the owner or agent.
2. The owner or agent submits a declaration schedule, to the county assessor, which lists all of the owner's rigs that were located in the county during the previous year and attaches a copy of the drilling log for each rig.

3. The owner or agent also sends an inventory of each rig's equipment sufficient to determine the valuation for assessment to the assessor of the first county in Colorado listed on each rig's log. This county is the county of original assessment or COA. It is Division policy that this inventory must include the rig's depth capacity and actual working depth; its overall physical condition rating as good, fair, or stacked; and the additional drilling collars and linear feet of drill pipe that are stored at the site. The declaration schedule and associated data must be filed with the assessor no later than April 15.
4. The assessor in the COA values the rig, according to Division policy, by using the actual rig depth capacity and rig condition multiplied first by the value per foot and then by the level of value adjustment factor published by the Division. In the case of modified or remanufactured rigs, the actual depth capacity may be greater than the original depth capacity. Any additional drilling collars and drill pipe value are added to the rig value. This total value is then apportioned among the counties listed on the drilling log according to the number of days the rig was located or stacked in each county as compared to the full calendar year.

Refer to **Addendum 7-A, Drilling Rig Valuation Depth Schedule**, for the current capacity market values, condition ratings, and value of stored collars and drill pipe.

Should the rig have been destroyed during the previous calendar year, the same procedures are followed for an adjusted actual value and a shortened calendar year. In this case, the rig value is apportioned to Colorado counties based on the number of calendar days it was located or stacked in each county, prior to the day of its destruction. Refer to the topic ***Drilling Rigs Destroyed Prior to Next Assessment Date*** following this list.

5. On or before June 15, the assessor of the COA furnishes a copy of the apportionment working papers and an NOV for the apportioned actual value to the owner or operator. Also, on or before June 15, the assessor of the COA sends the total actual value, apportionment working papers, and a copy of the drilling log to every county assessor involved. These assessors must use the actual values as apportioned to their counties by the assessor of the COA and must send their NOVs to the taxpayers on or before June 15.
6. The apportioned rig is assessed at 29 percent of actual value and included in each county's abstract of assessment.

Drilling Rigs Destroyed Prior to Next Assessment Date

As stated above, Division policy requires the assessor to base the value of skid-mounted drilling rigs for the current assessment year on rigs operating in the county during the previous calendar year. If a rig was destroyed prior to the current assessment date, but was operating during the prior calendar year, a personal property declaration schedule is mailed to the owner or agent of the rig as soon after the assessment date as possible, as required by § 39-5-113.3(1), C.R.S.

The actual value of the rig is determined by dividing the intact rig value by the number of calendar days in the previous calendar year and multiplying the resulting actual value per day times the number of days the rig existed intact during the prior calendar year, excluding the day of destruction, as shown in the example.

As a check for balancing purposes, it is recommended that the nontaxable value also be calculated and added to the apportioned taxable value. The resulting sum should be equal to the total intact rig value.

The assessor in the county of original assessment (COA) values the rig and apportions the value among the counties listed on the drilling log. This apportionment is accomplished by multiplying the calculated total actual value per day by the number of days the rig was located in each county during the previous calendar year. On or before June 15, the assessor of the COA furnishes a copy of the actual valuation of the rig, the apportionment working papers, and the NOV for the COA apportioned actual value to the owner or operator. The assessor of the COA also sends the actual valuation, apportionment working papers, and copies of the drilling log to every county assessor involved. These assessors send their NOV's for their apportioned actual values to the taxpayer on or before June 15. An example of a skid-mounted drilling rig, destroyed on 10/1/2005, is valued for assessment on January 1, 2006 as follows.

<u>Well Name</u>	<u>County/State</u>	<u>Date From:</u>	<u>Date To:</u>	<u># of Days</u>
Sniff "C"	Bent, CO (COA)	01-01-05	02-23-05	54
Trahern "D"	Baca, CO	02-24-05	04-17-05	54
Hoffman #1-29	Prowers, CO	04-18-05	07-02-05	76
STACKED	Prowers, CO	07-03-05	09-30-05	90
RIG BURNED	Prowers, CO	10-01-05		0
				<u>274</u>
TOTAL ACTUAL VALUE: \$319,020 :- 365				= \$874.03
APPORTIONED ACTUAL VALUE: \$874.03 X 274				= \$239,484
NONTAXABLE VALUE: \$874.03 X 92				= <u>\$ 80,411</u>
				\$319,895
Days in Bent County, CO	54	X \$874.03	=	\$ 47,197
Days in Baca County, CO	54	X \$874.03	=	47,197
Days in Prowers County, CO	166	X \$874.03	=	<u>145,089</u>
Total			=	\$239,484

NOTE: This example shows calculations for a typical year. For leap years, the Total Actual Value would be divided by 366 days to arrive at a "per day" figure for apportionment. Final assessed-value rounding errors, either plus or minus, are assigned to the county of original assessment. Stacked days are assigned to the county where the rig is stacked. Travel days are assigned to the destination county.

The repeal of personal property prorations described below does not affect the apportionment of skid-mounted oil and gas drilling rigs. These drilling rigs can only be valued for the days they were traveling in, were operating within, or were stacked within Colorado.

PRORATION OF VALUE

Proration, or proportionate valuation, of personal property is a reduction in total taxable value because of the existence of certain circumstances. Proration of value essentially means that property is assessed for less than the full calendar year.

As of January 1, 1996, the only condition that requires a proration of personal property value is the change in taxable status of Works of Art loaned to and used for charitable purposes by an exempt organization.

If other taxable personal property was located in Colorado on the assessment date, it is taxable for the entire assessment year, providing that, if it was newly acquired, it was put into use as of the assessment date. If it was not located in the state on the assessment date, or if it was newly acquired, but was not put into use as of the assessment date, it cannot be taxed until the next assessment year. Personal property exempt on the assessment date retains its exempt status for the entire assessment year except for Works of Art, for skid-mounted drilling rigs, and for movable equipment, which are apportioned. These requirements do not affect the proration of real property.

WORKS OF ART

Any work of art, as defined in § 39-1-102(18), C.R.S., may be subject to proration of its taxable and exempt value. The proration provisions are specified in § 39-5-113.5, C.R.S. Detailed criteria pertaining to the qualifying works of art, exempt entities, charitable purposes, and documents required by the assessor are listed in **Chapter 2, Discovery, Listing, and Classification**.

The proration process is as follows:

1. Determine the actual value (as of the assessment date) of the works of art.
2. Factor actual values to the correct level of value using the appropriate level value (LOV) adjustment factor for the appropriate year as found in **Chapter 4, Personal Property Tables**, Industry Category Number 6.
3. Determine assessed value.
4. Prorate the actual value according to the number of days that the property is taxable and exempt compared to the full calendar year.

Example:

Subject Property:	Mixed media, paintings, sculptures.
Months Displayed:	January-September
Place Displayed:	State Capitol Building, Denver.
Actual Value:	\$750,000

Actual Value:	\$750,000
Adjust to the Specified Level of Value:	$\times .93$
Adjusted to Specified Level of Value:	\$697,500

Actual Value per Day: $\$697,500 \div 365 = \$1,910.96$

Time that property is exempt: 273 days

Time that property is taxable: 92 days

Proration:

Exempt	273 days x \$1,910.96 =	\$521,692 (rounded)
Taxable	92 days x \$1,910.96 =	\$175,808 (rounded)
		\$697,500 (rounded)

The total of the taxable and exempt proration should be compared to the total actual value to ensure that they are identical.

The assessor notifies the owner of the works of art of the actual value and the proration no later than June 15. The owner may protest the valuation in the same manner as other personal property. Failure to file the works of art statement with the declaration schedule, DS 050 Works of Art Declaration Schedule, constitutes a forfeiture of the exemption for the assessment year as required by § 39-5-113.5, C.R.S.

SMM & AD VALOREM TAX – FORM 301

Mobile machinery and self-propelled construction equipment is designated as Class F personal property and is commonly referred to as Special Mobile Machinery (SMM). SMM is subject to registration and annual specific ownership taxation in lieu of ad valorem taxation as provided in §§ 42-3-103(1) and 106(1)(e), C.R.S. The assessor should list this equipment for ad valorem tax valuation only if the equipment falls under one of the two exceptions to registration listed under ***Exceptions to Specific Ownership Taxation***.

Two agents are authorized to register such equipment and collect the specific ownership tax. The county clerk can register equipment on an annual basis, which is the most common method of registration. Equipment registered by the county clerk must display either an **SMM license plate**, or more commonly, an **SMM decal (Z-tab)**, which states “(current year) SMM SPECIFIC OWNERSHIP TAX PAID.”

Colorado ports of entry are also authorized to register SMM equipment, but they do so only for equipment that is located in Colorado for less than a full year. This includes equipment coming into the state for less than a full year, and equipment based in Colorado that is leaving the state for part of the year. The registration provided by ports of entry is prorated for a period of two to eleven months. Vehicles that receive a prorated registration will not display an SMM license plate or decal. Instead, the owner is provided a **Specific Ownership Tax Receipt (SOT)**. The SOT is an official port of entry form that includes a start date and an end date for the prorated registration. Prorated registration is authorized by § 42-3-107(16.5), C.R.S. and became effective July 1, 2001.

Because of the specific ownership taxation laws, very little mobile machinery or construction equipment is on the ad valorem tax rolls. Any such equipment discovered which may have escaped specific ownership taxation, or that was registered on a prorated basis for a time period that has expired, is reported to the county clerk's motor vehicle section. Non self-propelled oil and gas drilling rigs are to be listed and valued by the assessor as provided in § 39-5-113.3, C.R.S.

The specific ownership method of taxation is considerably different than that of ad valorem taxation. A graduated, decreasing tax rate is applied to the taxable value of the SMM. Beginning in 1997, the law controlling specific ownership taxation requires calculation of taxable value to be based, in part, on when the equipment was purchased by its current owner. In all cases, the taxable value of SMM, including attachments is calculated **exclusive of state and local sales taxes.**

Taxable value of the SMM purchased by the current owner **on or after 1/1/97** is established in one of the following ways:

- The taxable value is 85 percent of the manufacturer's suggested retail price. When attachments have been added, the total taxable value includes 85 percent of the suggested retail price of the attachments.
- If the manufacturer's suggested retail price is not available, then the taxable value is 100 percent of the retail delivered price including 100 percent of the retail delivered price of the attachments.
- If neither of the above are available, then the taxable value shall be established by the Property Tax Administrator as 85 percent of the value set forth in a nationally recognized or standard reference for such figures.
- If none of the above are available, the taxable value is based on the best information available to the Property Tax Administrator, pursuant to § 42-3-107(15)(b.5), C.R.S.

Taxable value of the SMM purchased by the current owner **before 1/1/97** is established in one of the following ways:

- The taxable value is 100 percent of the factory list price and, if there are attachments, the taxable value includes 75 percent of the original retail delivered purchase price of the attachments.
- When the factory list price is not available, the taxable value is 75 percent of the original retail delivered price including attachments.
- When neither the factory list price of the equipment nor the original retail delivered price are available, then the taxable value shall be established by the Division based on the best information available.

Taxable value, as determined by one of the owner's purchase dates described above, is used for all subsequent years during which the special mobile machinery is under the same ownership. A graduated decreasing tax rate is applied to the taxable value as shown in the table below. For most equipment, the manufacturer's suggested retail price is published by the Division in the Mobile Equipment Manual (AH 538). The tax rate schedule, from § 42-3-107(15)(d), C.R.S., is listed below:

YEAR OF SERVICE

RATE OF TAX

First year	2.10% of taxable value (FOB New)
Second year	1.50% of taxable value (FOB New)
Third year	1.25% of taxable value (FOB New)
Fourth year	1.00% of taxable value (FOB New)
Fifth year	.75% of taxable value (FOB New)
Sixth and later years	.50% of taxable value (FOB New), but not less than \$5.00

EXCEPTIONS TO SPECIFIC OWNERSHIP TAXATION

There are only two exceptions under which equipment that is normally subject to registration and specific ownership taxation is valued for ad valorem taxation. Both exceptions are listed in § 42-3-104(3), C.R.S.

1. Registration and specific ownership taxation are not required for mobile machinery and self-propelled construction equipment used solely on property owned or leased by the owner of such machinery and equipment, if it is not operated on the public highways and roads and the owner lists all such machinery and equipment on the personal property schedule filed with the assessor in the county in which it is located.
2. Registration and specific ownership taxation are not required for mobile machinery and self-propelled construction equipment owned by a public utility, if it is not operated on the public highways and roads and it is valued for assessment by the Property Tax Administrator.

Examples of equipment qualifying for these exceptions are crushers, conveyors, bulldozers, and loaders operating exclusively in a sand and gravel pit, off-highway dump trucks operating exclusively within the boundaries of a mining operation, and fork lifts operating exclusively within a warehouse or lumber yard.

Many owners of equipment that operates solely on property owned or leased by the owner of the equipment elect to register such equipment with the county clerk and pay specific ownership taxes rather than list it with the assessor.

EQUIPMENT MOVING THROUGH PORTS OF ENTRY

SMM registration is usually restricted to machines that have wheels or endless tracks and are self-propelled or capable of being towed. Skid-mounted oil and gas drilling rigs are listed and valued by county assessors. On occasion, equipment such as oil field pumps and compressors has been registered for specific ownership tax purposes. See the *Auxiliary Equipment* topic earlier in this section.

Form 301

A problem develops when mobile equipment listed by the assessor is transported over the highways to a repair facility or to its new owner. This equipment could operate exclusively on property owned or leased by the equipment owner or it may be a piece of equipment that belongs to a skid-mounted drilling rig. If such equipment must pass through a port of entry station or a portable weight check station, it may be detained because it does not display an SMM plate or decal, if there is no proof that it has been assessed by a Colorado assessor.

To solve this problem, the Division of Property Taxation and Ports of Entry Division met and agreed to allow movable equipment to pass through check stations if an appropriate form showing proof of current year property tax assessment accompanies the mobile equipment. Form 301 has been approved by both Divisions for this purpose. Form 301 is a three copy, carbonless paper document, which is to be completed in its entirety. There should be no spaces left blank. Each item of movable equipment must be adequately described by year, make, model, common name or description (such as pressure booster pump), serial or identification number (very important), date of purchase, and purchase price.

The certification of assessment must be completed and signed by either the assessor or chief deputy. The document also must be embossed with the county seal. Copies or facsimiles of Form 301 will not be accepted by the Ports of Entry agents. The form is designed so that up to nine items of equipment may be listed.

Upon stopping at a port of entry, the owner, agent, or driver should present the yellow copy for clearance and point out which of the items listed are being transported at the time. The yellow copy will be returned to the driver. The pink copy is the owner's file copy. It is recommended that, as a matter of public relations, assessors notify owners of assessed mobile equipment about Form 301 and its purpose.

The number of taxpayers involved should be small because use of Form 301 is limited to owners of skid-mounted drilling rig equipment and owners of mobile machinery operated exclusively on property owned or leased by the equipment owner, but which may be transported through a port of entry or weigh station. Form 301 is not furnished by the Division of Property Taxation. Each assessor should order a small supply of these forms from the following printing company or contact the Division.

PRINTRITE
955 Decatur Street, Suite J
Denver, CO 80204
303-789-6067

SPECIAL VALUATION ISSUES

ASSETS IN STORAGE

Personal property business assets in storage, which are no longer used to produce income, are still taxable to the owner if they are still subject to depreciation. However, as maintenance on these assets may be deferred, they may suffer from additional physical depreciation as well as economic and functional obsolescence. Measurement of extraordinary depreciation from all causes can be difficult.

The Division recommends no adjustment during the assessment year the company goes out of business, whether the stored assets remain within their original real property location or not. During the next assessment year, the owner's intent regarding disposition of these assets should be determined. If the property is to be sold, moved out of state, or reconditioned during the assessment year, no extraordinary depreciation is applied. However, if the property remains in storage and periodic maintenance or reconditioning does not take place, auction value or even liquidation value may be appropriate depending on the individual circumstances. Specialized equipment may be appropriately valued at salvage value. The assessor must make these determinations on a case-by-case basis.

For example, restaurant equipment has an established secondary auction market, which may provide values adjusted for additional depreciation from all causes. Front range metropolitan counties may be of assistance in determining adjusted market values for used equipment.

CONSUMABLE PERSONAL PROPERTY - EXEMPTION

In 2000, the Colorado Legislature amended § 39-3-119, C.R.S., to require the Division of Property Taxation to "...publish in the manuals, appraisal procedures, and instructions prepared and published pursuant to § 39-2-109(1)(e), C.R.S., a definition or description of the types of personal property that are 'held for consumption by any business' and therefore exempt from the levy and collection of property tax pursuant to this section."

The Division has developed two criteria to aid in determining whether an item of personal property is considered consumable and, therefore, be exempt from property taxation. To be classified as "consumable," an item of personal property must fall under one of the two criteria identified below:

- 1. The item must have an economic life of one (1) year or less.**

This criterion applies to any item of personal property regardless of original acquisition cost. This category also includes non-functional personal property items that are used as a source of parts for the repair of operational machinery and equipment.

2. **The item of personal property has an economic life exceeding one year, but has an acquisition cost, inclusive of installation cost, sales tax, and freight expense to the point of use, of \$250 or less.**

The \$250 per item limitation applies to the acquisition cost of the item as completely assembled for use in the business, not the item's unassembled, individual component parts. Note the following two examples.

Example 1:

The original installed costs incurred for a complete computer system in place and ready for the end user should be considered. The component parts of the system including the mouse, keyboard, monitor, and the CPU should not be divided and considered separately for the \$250 or less "consumable" exemption.

Example 2:

The costs incurred in the acquisition and installation of an entire theater seating system including the acquisition, installation, sales tax, and transportation costs should be considered. The individual theater seats are unassembled individual component parts of a larger theater seating system and their costs should not be considered separately for the \$250 or less "consumable" exemption.

Leased equipment provision:

For leased equipment having a "buy out" provision occurring during or at the end of the lease, the fair market value of the item, including installation, sales tax, and freight to the point of use, at the time the initial agreement is executed, is to be used as the acquisition cost for the purposes of the \$250 threshold.

TECHNOLOGICALLY ADVANCED EQUIPMENT

The Division of Property Taxation has reviewed the published classification definitions, Replacement Cost New (RCN) trending factors, and economic lives assigned to computers, other computer equipment including stand-alone computer peripherals, computer-integrated equipment, and telecommunication equipment. As a result, the following classifications for computer personal property have been established:

- Personal Computers and Accessories
- Other Computer Equipment Including Stand-Alone Computer Peripherals
- Computer-integrated Equipment
- Telecommunication Equipment

Each of these classifications is discussed in the paragraphs below.

PERSONAL COMPUTERS (PCS) AND ACCESSORIES

This classification refers to a stand-alone desktop, notebook, or palm-size computer. Examples of components and accessories that may be found on a personal computer are:

- Stationary central processing unit (CPU)
- Internal and/or external disk drives
- Internal or external modem
- Computer docking stations
- Keyboard
- Mouse
- Tape storage units
- Monitors

The above examples are not all-inclusive. In determining whether to include an item of computer equipment under this classification, the general rule is to include any component or accessory that is used in conjunction with the personal computer and will be disposed of at the same time as the personal computer.

In order to better estimate the effects of technological obsolescence and rapidly changing economics inherent in the personal computer segment of the computer industry, we have assigned PCs and related accessories to RCN Table 13 (no RCN trend) and to a three (3) year economic life. A separate depreciation table incorporating a seven percent (7 percent) residual value for PCs and accessories has been developed and can be found in **Chapter 4, Personal Property Tables**.

OTHER COMPUTERS AND STAND-ALONE COMPUTER PERIPHERALS

This classification includes all computer equipment and stand-alone peripheral equipment that is not classified as personal computer components or accessories. Examples of other computer equipment include:

- Mainframe and Supercomputers
- Card readers
- Network servers
- Data entry devices
- Disc packs
- Printers (including high speed printers)
- Keypunch machines
- Magnetic tape feeds
- Mass storage units
- Servers
- Digital cameras
- Minicomputers
- Bar code scanners
- Point of sale credit card readers
- Optical character readers
- Plotters
- Tape cassettes, tape drives
- Terminals (including LOTTO)
- Modems
- Scanners
- Digital TV set-top boxes
- Automated Teller Machines (computer/electronic components/portion excluding the structural housing of the ATMs which should be valued using a ten (10) year economic life)
- Multi-purpose, computer-based equipment that has two or more separate functions (facsimile, printer, scanner, and/or telecommunication) equipment is also included in this category as other computer equipment.

In order to better estimate the effects of technological obsolescence inherent in the computer industry, we have assigned Other Computer Equipment to RCN Table 13 (no RCN trend) and to a four (4) year economic life. A separate depreciation table incorporating a seven percent (7 percent) residual value for Other Computer Equipment has been developed and can be found in **Chapter 4, Personal Property Tables**.

Excluded Equipment

Examples of equipment excluded from this classification are as follows:

- Adding and accounting machines
- Calculators
- Copiers
- Duplicating equipment
- Electronic desk calculators
- Production computers¹
- Typewriters
- Video arcade game equipment²

These items are classified based on their use as office equipment (RCN Table 3) or under the appropriate commercial or industrial use type.

USE OF MARKET GUIDES TO VALUE COMPUTER EQUIPMENT

The market value of used computer equipment reported in published market guides may be substituted for Replacement Cost New Less Depreciation (RCNLD), if it produces a lower value than the RCNLD value. These market guides contain sales information on many types and brands of used computer equipment. However, values obtained from these guides must include an additional amount for sales/use tax, freight charges to the point of use, and any installation costs.

¹Production computer equipment that is integrated into other equipment is generally excluded from this classification. Examples of this type of computer equipment include: computers used primarily for process or production control, switching, channeling, and automating distributive trades as with computerized material conveyance and handling systems, drill and punch presses, wood and metal turning lathes, and similar equipment. See the ***Computer-integrated Machinery and Equipment*** topic found later in this section.

² Video arcade game equipment used primarily for amusement or entertainment of the user also is excluded from this classification. Refer to the topic ***Video Arcade Games*** in this section.

References for used computer equipment values include:

Computer Price Watch
Computer Information Resources
P.O. Box 13176
Arlington, TX 76094-0176
(817) 654-0346

Orion Blue Books
Orion Research Corporation
14555 N. Scottsdale Rd., Suite 330
Scottsdale, AZ 85254
(800) 844-0759

Used IBM Computer Prices
Computer Economics, Inc.
27121 Aliso Creek Road, Suite 120
Aliso Viejo, CA 92656
(800) 326-8100 x 123
(760) 438-8100 x 123

COMPUTER-INTEGRATED MACHINERY AND EQUIPMENT

In recent years, computers and/or computer-based controls have become integrated into many other items of personal property. This category includes all machinery and equipment wherein a computerized control system is built into or incorporated with the components of the machinery or equipment item in such a way that the computer component is a permanent part of the equipment.

Machinery and equipment are to be classified as computer-integrated personal property if all of the classification criteria listed below are met:

1. The equipment is purchased or constructed to function as a single unit.

If the original sales invoice or other property sales information separates the computer portion from the mechanical portion of the equipment, then the computer portion should be valued as a stand-alone computer and given a four (4) year economic life. The mechanical portion of equipment should be given the appropriate economic life for an item that is not computer-integrated. Please refer to the ***Computer-Integrated v. Modular Computer Equipment*** topic later in this section.

2. The computer is not designed to perform functions outside the machinery or equipment and the machinery or equipment cannot function without the computer.
3. The machine is controlled by a programmable central processing unit that is physically integrated within the structure of the machinery or equipment.
4. The total cost of both the computer and machinery is depreciated as a unit for income tax purposes.

5. The capabilities of the machine cannot be expanded by substituting a more complex computer for the original. The capability of upgrading operating software will not disqualify equipment from being included in this category. In addition, typical industry practice for the personal property demonstrates that when either the computer or mechanical component of the machinery is no longer functional or economically feasible to repair, the entire machine is retired, scrapped, and/or sold for parts.

Computerized lathes used in research and development is one example of computer-integrated equipment.

If one or more of the criteria are not met, the item is to be classified as normal machinery and equipment, and given the appropriate replacement cost new (RCN) trending factor and economic life. When evaluating a complete manufacturing line or process, each piece of machinery or equipment within the line or process must be separately examined to determine whether it meets the criteria listed above.

Computer-integrated machinery and equipment should be valued using RCN Table 13 (no RCN trend) and a four (4) year economic life. To access the applicable depreciation tables for computer-integrated equipment, please refer to **Chapter 4, Personal Property Tables**.

Computer-integrated equipment may suffer functional and/or economic obsolescence due to technological changes. If verified, the assessor should consider any market or income information that will support a lower value than that established through the cost approach.

Computer-Integrated v. Modular-Controlled Equipment

Assessors should be aware that many items of equipment and machinery now have modular electronic and/or computer controls that direct the operation of the machine. These modular controls can be replaced by new controls or updated with new hardware circuitry as needed by the equipment owner. The modular computer controls typically are not physically integrated with the equipment in such a way that the item meets the definition as Computer-integrated Equipment.

When modular computer-controlled equipment is found, the assessor should classify and value the computer portion as **Other Computer Equipment Including Stand-Alone Computer Peripherals** and the mechanical portion at the appropriate economic life assigned for that type of equipment. When modular electronic-controlled equipment is found, the assessor should classify and value the electronic portion as electronic equipment and the mechanical portion at the appropriate economic life assigned for that type of equipment.

Computerized machinery and equipment may be subject to additional technological obsolescence. Assessors should be prepared to consider verified market and income information that indicates a value lower than the cost approach.

TELECOMMUNICATION EQUIPMENT AND SYSTEMS

Examples of telecommunication machinery and equipment included in this classification are:

- Internal customer telecommunication systems
- Fax machines
- Key systems
- Teletypes
- PBX systems
- Small telephone systems
- Telephone handsets

Telecommunication machinery and equipment are to be valued using RCN Table 13 (no RCN trend) and a four (4) year economic life. To access the applicable depreciation tables for telecommunication equipment, please refer to **Chapter 4, Personal Property Tables**.

Equipment Excluded from This Classification

Examples of equipment excluded from this classification are as follows:

- Aerial wires
- Cable
- Microwave systems
- Pole lines
- Radio and television towers
- Underground conduits
- Satellite communication services

Excluded equipment should be valued using the RCN Factor Tables that are applicable to the type of equipment. Procedures for the classification and valuation of telecommunication towers are located later in this section.

CONDITIONAL SALES AGREEMENTS VERSUS TRUE LEASES

Questions arise in the responsibility for declaring personal property leased pursuant to a true lease as opposed to a conditional sales agreement. In some cases, an agreement identifying itself as a lease may be a conditional sales agreement and vice versa. In Colorado, personal property under a true lease agreement should be assessed to the lessor (owner) of the personal property.

Conditional sales agreements may be assessed to either the lessor or lessee depending on whether legal title to the personal property has passed from the lessor to the lessee. Definitions of a true lease and conditional sales agreement are shown below:

TRUE LEASE

A “true lease” is an agreement under which the owner of personal property gives up possession and use of the property for valuable consideration and for a definite time period. At the end of the time period, the lessor has the right to retake, control, or convey the property. True leases are agreements where there is no intent to transfer ownership from the lessor to the lessee.

CONDITIONAL SALES AGREEMENTS

Also known as “financing leases,” these are considered to be sales contracts under the Uniform Commercial Code. Specifically, sellers receive periodic payments for the purchase price until full payment is made or until a predetermined date occurs.

Differentiating Between a Lease and a Conditional Sales Agreement

Suggested criteria for differentiating between a lease and conditional sales agreement is shown below:

True Lease

- Lease is cancelable on a monthly or annual basis
- Optional purchase price at the end of the agreement is at market value
- Present value of the lease payments is less than the purchase price of the item
- Agreement specifies ownership of the item is retained by the lessor
- Lessor is treating the property as a depreciable asset

Conditional Sales Agreement

- Lease period is approximately the same as the economic life of the asset
- Present value of the payments is the same or greater than the purchase price of the item
- Lessee is treating the property as a depreciable asset
- Agreement indicates passage of legal title to the lessee with a security interest retained by the lessor until the end of the agreement

RESPONSIBILITY FOR THE REPORTING OF LEASED PROPERTY

Lessors of personal property under true leases are responsible for reporting the installed cost and location of the personal property. In most cases involving conditional sales agreements, the seller retains title to the property for collateral or security purposes during the term of the agreement. In these instances, the seller is considered the legal owner of the property and is responsible for reporting the installed cost and location of the item. If, under the provisions of the agreement, legal title is passed to the lessee, it is the lessee’s responsibility to report the location and installed cost to the appropriate county assessor.

GAMING EQUIPMENT

The recommended RCN Factor Table for the valuation of gaming equipment is Table 1 - Average of All. The recommended economic lives for electronic gaming equipment, such as slot machines, and most other larger gaming items, such as tables, are five (5) years and ten (10) years respectively. However, many of the items in a typical gaming establishment may be consumed during the business year and should be classified as exempt materials and supplies. Examples of these exempt items include playing cards, dealer's aprons, and betting chips. It is recommended that an itemized listing of personal property be obtained from each new gaming establishment prior to determining taxable status of the business personal property.

ALL TERRAIN VEHICLES (ATVS)

The recommended RCN Factor Table for ATVs is Table 1 – Average of All. The recommended economic life for ATVs is six (6) years. The ATV category includes: non-licensed three or more wheeled vehicles, snowmobiles, and motorbikes.

SNOW CATS

The Division completed a snow cat economic life research study in February of 2004. The results support the recommended economic lives as noted in **Chapter 4 – Personal Property Tables**. Heavy use snow cats (averaging 1,300 or more hours of operation per calendar year) remain economically feasible to operate for six (6) years. Heavy use snow cats include snow cats that are used in a ski resort's snow grooming operations. Moderate use snow cats (averaging less than 1,300 hours of operation per calendar year) remain economically feasible to operate for ten (10) years. Moderate use snow cats include snow cats that are used for surveying, transportation, and/or in search and rescue operations. The recommended RCN Factor Table for snow cats is Table 1 – Average of All.

MEDICAL EQUIPMENT

The recommended economic life tables as listed in **Chapter 4, Personal Property Tables**, contain specific and general categories that adequately cover most personal property used in the health care industry. The recommended economic life tables support economic lives ranging from three (3) to ten (10) years depending on the composition, design, and use of each personal property item. The recommended life tables and industry classifications should be reviewed to ensure that the appropriate justifiable industry and recommended economic life is assigned to each item of personal property. If in utilizing the listed industry categories and descriptions, an industry where the specific item of personal property is typically used cannot be clearly determined, Industry Table 1 – Average of All, should be used for that item. Personal property that is not specifically noted in the recommended economic life tables should be classified into the category where it “best fits” with other similar functioning and/or purpose personal property.

The following listing contains examples of categories and types of medical equipment and the recommended economic life for each.

1. 3 – Year Recommended Economic Life
 - a. Computers – personal and accessories
 - b. Computers – laptop
2. 4 – Year Recommended Economic Life
 - a. Computers – other and stand-alone peripherals
 - b. Computer – integrated machinery and equipment
 - c. Lasers (coronary)
 - d. Telecommunication machinery and equipment
3. 6 – Year Recommended Economic Life
 - a. Anesthesia unit and equipment
 - b. Analyzer equipment
 - c. Blood pressure devices/machines
 - d. Blood warmer machines
 - e. Bypass/heart – lung system
 - f. Cameras and associated equipment
 - g. Cash registers (electronic)
 - h. Copiers and duplicators
 - i. Defibrillators
 - j. Dopplers
 - k. Echocardiograph system (EKG)
 - l. Electrocardiographs
 - m. Electronic equipment, except computers
 - n. Electronic charting equipment
 - o. Electronic pulmonary equipment
 - p. Floor cleaning/polishing machinery
 - q. Isotope equipment
 - r. Lithotripters, extracorporeal shock-wave (ESWL)
 - s. Lasers (positioner, surgical, other not including coronary)
 - t. Magnetic resonance imaging equipment (MRI) (Electronic portion)
 - u. Mammography units
 - v. Monitors (other than those used with a computer)
 - w. Optical readers
 - x. Scanners
 - y. Scopes
 - z. Sterilization system equipment
 - aa. Stretchers (hydraulic)
 - bb. Telemetry units (cardiac)
 - cc. Television equipment
 - dd. Typewriters (electric)
 - ee. Wheel chairs
 - ff. X-ray equipment

4. 10 – Year Recommended Economic Life
 - a. Aspirators
 - b. Blanket warmers/dryers
 - c. Counters
 - d. Conveyor system (used for laundry or trays)
 - e. Folding partitions/walls
 - f. Forklifts
 - g. Furniture (i.e. beds, cabinets, chairs, desks, tables, other)
 - h. Lockers
 - i. Magnetic resonance imaging equipment (MRI) (Mechanical portion)
 - j. Patient lifters
 - k. Packaging Machinery
 - l. Pneumatic tube system
 - m. Pumps, medical
 - n. Saws, medical

Note: The above listing is designed to assist assessors and their staff in determining reasonable economic lives for medical equipment. It should be used for consistency purposes. Also note that the list is not an all-inclusive list.

PIPELINE CLASSIFICATION AND VALUATION PROCEDURES

STATUTORY REFERENCES

In 1998, the following statute was enacted to classify pipelines, as well as other types of property installed through an easement, right-of-way or leasehold, as personal property.

Definitions.

(11)...Except as otherwise specified in articles 1 to 13 of this title, any pipeline, telecommunications line, utility line, cable television line, or other similar business asset or article installed through an easement, right-of-way, or leasehold for the purpose of commercial or industrial operation and not for the enhancement of real property shall be deemed to be personal property, including, without limitation, oil and gas distribution and transmission pipelines, flow lines, process lines, and related water pipeline collection, transportation, and distribution systems. Structures and other buildings installed on an easement, right-of-way, or leasehold that are not specifically referenced in this subsection (11) shall be deemed to be improvements pursuant to subsection (7) of this section,

§ 39-1-102, C.R.S.

Specific policies and procedures developed to implement this statute are contained in the sections below.

GENERAL POLICY PROVISIONS

This policy and associated procedures cover classification and valuation of all oil and gas gathering, transmission, and distribution pipelines located in Colorado.

With respect to classification, both locally assessed gathering and transmission pipeline systems and systems that are state assessed as pipeline companies, gas transmission carrier companies, and gas companies are to be considered personal property. However, since valuation of state assessed property is specifically determined using the “unitary valuation concept” the pipeline valuation procedures contained herein do not apply to state assessed companies.

Examples of property that would be classified as personal property and covered under these procedures are:

- Pipeline Tubulars inclusive of installation cost
- Cathodic Protection Units, Compressors
- Pipeline Controls, Regulators, and Meters
- Gas Measurement Devices such as orifice, turbine, and venturi meters
- All other assets and articles, exclusive of buildings and structures, installed within the pipeline right-of-way.

Examples of property that would be classified as real property and covered under these procedures are:

- Land owned by the pipeline company
- Buildings, structures, fixtures, and fences classified as improvements pursuant to § 39-1-102(7), C.R.S.

Other components of the pipeline system may fall under one of the two examples as either real or personal property. For further clarification and guidance, contact the Division of Property Taxation.

Although flow line and piping located at oil and gas wellsites and tank battery sites are also similar to the types of pipeline property listed above, the value of flow line and piping is included in the market values published in **Chapter 6, Oil and Gas Equipment Valuation**, and should not be valued under this policy.

DEFINITIONS

Most oil and gas pipeline systems fall into one of three groups: gathering, trunk/transmission, or distribution. For the purpose of this policy and associated procedures, the following definitions will be used.

Pipeline System

A pipeline system is defined as a collection of pipeline facilities used to transport oil, natural gas, or NGLs from a source of supply to the end user (natural gas) or final processing at a petrochemical refinery (crude oil and NGLs). The system may include gathering systems, transmission lines, distribution systems, and related facilities for compression, treatment, and processing the oil and/or gas during its journey through the system.

Gathering System

A gathering system is defined as a network-like system of pipelines that transport crude oil and natural gas from individual wellsites to a compressor station, treating or processing plant, or main transmission line. Gathering lines are generally short in length, operate at a relatively low pressure, and are small in diameter.

Product Transmission System

A product transmission system is defined as pipelines designed and constructed for transporting product from principal supply areas to distribution systems, larger volume customers, other transmission lines, or petrochemical refineries. Transmission lines generally have a linear configuration, larger diameter pipe, operate at a relatively high pressure, and traverse long distances.

Distribution System

A distribution system is defined as a network-like system of pipelines that transport natural gas from a transmission line to end users' service lines or to other distribution lines. Generally large pipelines are laid in principal streets, with smaller lateral lines extending along side streets and connected at the ends to form a grid or brought to a dead end.

PIPELINE CLASSIFICATION POLICIES

Classification of Pipelines as Personal Property

Under the provisions of § 39-1-102(11), C.R.S., pipelines are to be classified as personal property. Land owned by the pipeline company, buildings, and structures located within the right-of-way or easement are to be classified as real property. The value of pipeline rights-of-way and easements are included as part of the value of the assets of the pipeline and associated machinery and equipment. No separate assessment of pipeline rights-of-way or easements is to be done.

State Assessed vs. Locally Assessed Pipelines

The Division of Property Taxation - State Assessed Section relies on the following general criteria when determining applicability for state assessment:

- The intent of statutory language contained in article 4 of title 39 of the Colorado Revised Statutes
- Existing Colorado case law
- Whether the entity owning the property is regulated by the Colorado Public Utility Commission (PUC), Federal Energy Regulatory Commission (FERC), or other governmental agency
- Whether the property crosses county and/or state boundaries
- Comparison of the subject property to assessment practices of other companies that are currently state and/or locally assessed.

If a question exists as to whether a pipeline property will be state or locally assessed, contact the State Assessed Section of the Division of Property Taxation for a determination.

Gathering Pipeline Systems vs. Trunk/Transmission Pipeline Systems

The final determination as to whether a pipeline should be designated as a gathering system pipeline (14 year economic life) as opposed to a trunk or transmission pipeline (22 year economic life) should reflect the judgment of the assessor based on the facts as they apply to the specific pipeline system under appraisal. Assessors are strongly encouraged to examine the physical characteristics and purpose of the pipeline when determining whether it is a gathering or transmission pipeline.

It is possible that a larger diameter “trunk” line, normally classifiable as a trunk/transmission line, would be used to connect several gathering systems together so that all of the hydrocarbon production would be delivered to a central point for processing. In this instance, the trunk line could reasonably be considered an extension of the gathering system and would be valued using a 14 year economic life.

PIPELINE VALUATION PROCEDURES

As personal property, Colorado statutes require that the cost, market, and income approaches to value be considered in the valuation process. However, § 39-1-103(13)(a), C.R.S., mandates that the value determined using the cost approach to appraisal shall set the maximum value for the pipeline if all costs incurred in the acquisition and installation of the pipeline have been provided to the assessor. Additionally, all forms of depreciation are to be considered when establishing a final actual value for the pipeline. The assessment rate for pipeline systems is 29%.

For gathering systems, the primary approach to value will generally be the cost approach. However, market and income approaches are to be considered and applied if sufficient comparable sales or actual income and expense information exists. Assessors should be aware that few gathering systems sell or operate separately from the oil and gas reserve and/or gas processing plant to which the gathering system is connected. Total values determined from market and/or income approaches to value must be allocated to the various components of the total system so that separate values for each component are determined.

For product transmission and distribution systems, all three approaches are to be considered. Assessors should request income and expense information upon which to analyze net operating income. When sales of transmission and/or distribution systems occur, assessors need to confirm the sales price and terms of the sale and ascertain the allocated sales price for each component (transmission system v. other oil and gas assets) contained in the sale.

Cost Approach Valuation Procedures

When utilizing the cost approach to value, assessors may consider historical installed costs as well as replacement costs in establishing the cost new prior to application of depreciation. However, consideration of all forms of depreciation (physical, functional, and economic) is required when applying the cost approach.

Based on typical Federal Energy Regulatory Commission (FERC) filings for 1990 and 1991, the average breakdown of costs for onshore pipelines is shown as follows:

Right of Way/Damages	4.38%
Labor	38.55%
Materials	36.59%
Miscellaneous	<u>20.48%</u>
	100.00%

Based on information compiled by the Oil and Gas Journal and quoted in the Oil and Gas Pipeline Fundamentals text, an average investment breakdown for crude oil and products pipelines is also listed below.

	<u>CRUDE OIL PIPELINES</u>	<u>PRODUCTS PIPELINES</u>
Land and Right of Way	2.86%	2.88%
Line Pipe and Fittings	27.30%	27.44%
Pipeline Construction	40.20%	38.36%
Miscellaneous	8.25%	13.40%
Pump Stations and Equipment	<u>21.39%</u>	<u>17.92%</u>
	100.00%	100.00%

These percentages are overall industry averages and may not reflect exact cost allocations for a specific pipeline project in Colorado. Assessors should be aware of any substantive differences between the industry averages and information provided by the taxpayer and are encouraged to discuss with the pipeline owner any significant differences between the above cost allocation percentages and actual costs reported to the assessor.

Establishing Original Installed Cost:

For these procedures, the primary basis of the cost approach is the Original Installed Cost of the pipeline system. When possible, the assessor should obtain actual pipeline construction costs for each pipeline system in the county.

Research and discussions with industry indicates that there is no “typical” or “representative” pipeline system as far as installed cost is concerned. Construction costs depend on geographical area, size of the pipeline, number and size of pump and compressor stations, and general economic conditions.

Components of Historical Cost:

Examples of typical types of costs incurred when constructing a pipeline system are:

1. Right of way
2. Damages
3. Land survey
4. Pipeline materials and labor
 - a. Cost of pipeline tubulars (e.g. line pipe and fittings)
 - b. Installation costs
 - c. Pipeline coating
 - d. Cathodic protection

5. Engineering inspection
6. General overhead and contingencies
7. Regulatory and Legal fees
8. Cost of other services
9. Telecommunication equipment

Depending on the size and purpose of the pipeline, not all of the above costs may be separately listed by the pipeline owner. Assessors are strongly encouraged to solicit an accurate cost of the pipeline from the pipeline owner.

Costs used for valuation purposes are generally those costs that have been classified as assets and are capitalized and depreciated on the books and records of the company. However, pipeline right-of-way (ROW) acquisition costs should not be separately valued when valuing the assets of a pipeline, as original ROW acquisition costs are associated with land or its use. Since the pipeline could not exist without the Right-of-Way, the value of the Right-of-Way attributable to the pipeline is assumed to be included in the total actual value of the pipeline, once that value is determined. Damage costs paid to the landowner for damage caused by installation of the pipeline system are expenses, not capitalized assets, and are not to be valued with the pipeline or separately from it.

In general, the longer the pipeline, the lower the cost per mile. A pipeline a few miles long will cost considerably more per mile than a pipeline several hundred miles long even though both are the same diameter and are laid out in similar terrain. Pipeline costs are often compared on an “inch-mile” basis to make the comparison less dependent on pipeline size. To convert to inch-miles, multiply the pipeline interior diameter by the number of actual miles of the pipeline.

Capitalized installed costs incurred to replace a component of the pipeline system can be accounted for by one of two methods. The first is to show the cost of replacement as a separate cost, trend this cost to reproduction cost new (RpdCN) as of January 1 of the assessment year, and depreciate the RpdCN as any other pipeline asset cost. However, a reduction in the original historical cost for the replaced component must be made to account for the fact that the original component is no longer a part of the pipeline system. Normal maintenance and repair costs that do not increase the economic life of the pipeline system should not be considered as capitalized replacement costs under this procedure.

The second method for the accounting of replaced equipment is to increase the percent good of the pipeline system to account for the added economic life due to replacement of the pipeline component. If this method is employed, the assessor should validate with the pipeline owner any measurable change in the remaining economic life of the system. In valuing the pipeline under the cost approach, the adjusted economic life (and resulting percent good) is used as the basis for recognizing normal physical depreciation.

Establishing Current Reproduction Cost New:

Once historical pipeline costs have been obtained, they must be trended to reproduction cost new (RpdCN) as of January 1 of the assessment year. When trending historical cost, the result is considered to be Reproduction Cost New (RpdCN), because it represents what was actually installed when the pipeline was new.

The Division has developed Cost Trending Factors to trend original installed costs to costs as if new as of the assessment date. These trending factors are based on "Total Plant" gas utility construction cost trends listed in Table G-5 of the *Handy-Whitman Index of Public Utility Construction Costs* by Whitman, Requardt and Associates. The trending factors for pipelines are also applicable to compressor station equipment, as well as measuring and regulating equipment. Since the factors in these tables have been calibrated to include the level of value adjustment factor, pipeline values do not require the use of a Level of Value (LOV) adjustment or "Rollback" factor. Put another way, the LOV Factor will always be **1.00**.

The table containing the trending factors is found in ***Cost Trending Factors and Percent Good Tables*** at the end of these procedures. A basic illustration on the use of the factors in the valuation of a gathering system for the 2006 assessment year is shown below:

Description	Year of Construction	Installed Cost	Trending Factor	RpdCN
Field Line	1996	\$ 850,000	1.422	\$ 1,208,700
Field Reg & Meas. Structures	1997	\$ 50,000	1.402	\$ 70,100

The resulting reproduction cost new (RpdCN) figures represent the estimated cost to build the pipeline as if new as of the January 1 assessment date.

Special Rule Regarding the "Freezing" of the Cost Trending Factor:

When a component of pipeline personal property has reached its minimum depreciated value (15 percent), the applicable Cost Trending Factor in use at that time is "frozen," and will remain frozen until the component is permanently taken out of service. If this rule were not established, pipeline values would increase as they got older. This situation does not realistically happen in the marketplace.

An exception to this rule applies when the property has been reconditioned to extend its remaining economic life. In this instance, the assessor may substitute a later 'year acquired' thus increasing the cost approach value of the pipeline to reflect the additional value attributable to a longer remaining economic life.

The next step is to apply depreciation to the trended reproduction costs new in order to calculate reproduction cost new less depreciation (RpdCNLD).

Calculation of Depreciation

Depreciation calculations should consider the economic life of the pipeline, the economic life of the oil and gas reserve served by the pipeline, any loss in value due to super-adequacy of pipeline capacity or loss in functional utility, and economic obsolescence due to market forces affecting the oil and gas industry.

Types of depreciation that are recognized in the cost approach valuation of pipelines:

- Normal Physical Deterioration (due to normal wear and tear over the economic life of the pipeline).
- Extraordinary Physical Deterioration due to excessive physical deterioration from soil conditions or transportation of corrosive materials over and above the loss in value due to normal wear and tear.
- Functional/Economic Obsolescence due to lower than normal pipeline “throughput” in relation to operating design capacity.

Each of these forms of depreciation is discussed in greater detail below.

Normal Physical Deterioration:

Normal physical depreciation is accounted for through the use of depreciation tables. The depreciation tables are based on Iowa State University Retirement and Survivor Curve Studies for various types of commercial and industrial assets.

For trunk/transmission pipeline systems, the table is based on a 22 year economic life. For gathering systems, the table is based on a 14 year economic life. These tables are identical to tables used for the valuation of other personal property components having the same economic lives.

Please note that the Iowa State University studies extend the minimum depreciated value floor from 14 to 17 years for gathering systems and from 22 to 29 years for trunk/transmission pipeline systems.

This table is found in the ***Cost Trending Factors and Percent Good Tables*** at the end of these procedures. An example of this procedure using the 14-year life table (Gathering System Pipeline) for the 2006 assessment year is shown below:

Description	Year of Construction	RpdCN Cost	Percent Good		RpdCNLD
Field Line	1996	\$ 1,208,700	49%	(0.49)	\$ 592,263
Field Reg & Meas. Structures	1997	\$70,100	56%	(0.56)	\$ 39,256

The percent good numbers listed in the Percent Good Table reflect normal depreciation assigned to the pipeline assets, excluding ROW costs, over the economic life of the pipeline.

Extraordinary Physical Deterioration:

Extraordinary forms of physical deterioration can exist from exposure to caustic or corrosive products transported within the pipeline as well as soil conditions that shorten the economic life of the pipeline.

Allowance for extraordinary deterioration can be made in one of two ways:

1. Allowance of additional physical deterioration can be measured by deducting the net “cost-to-cure” relating to the condition causing the extraordinary physical deterioration. Net cost-to-cure is determined by the total cost-to-cure less the current depreciated cost of the pipeline component being replaced.
2. Reduction of the remaining economic life of the pipeline causing a higher percentage of depreciation (lower percent good) to be applied to the reproduction cost new.

Generally, incurable extraordinary physical deterioration can be accounted for by reducing the percentage good assigned to the pipeline through the use of the depreciation table in the ***Cost Trending Factors and Percent Good Tables*** at the end of these procedures. This adjustment has the effect of lowering the remaining economic life of the pipeline or pipeline component that is affected by the condition.

The assessor should work closely with the pipeline owner to determine the reason for reducing the remaining economic life of the system. The adjusted economic life (and resulting percent good) serves the basis for application of normal physical depreciation and no additional adjustment for extraordinary depreciation is allowed.

For example, assume a gathering system pipeline with a normal remaining economic life (REL) of 10 years is suffering from advanced corrosion due to sulfuric acid created by excessive hydrogen sulfide gas (H₂S) in the natural gas stream. Although the pipeline owner had applied an interior coating to the pipeline to protect it from corrosion, the pipeline has only five (5) years left until the corroded section will have to be replaced or a new line installed.

The assessor may recognize this additional loss in value by decreasing the percent good obtained from the gathering system depreciation table found in the ***Cost Trending Factors and Percent Good Tables*** from 60% good (10 year REL) to 33% (5 year REL).

Functional/Economic Obsolescence:

After a pipeline system has begun operation, functional/economic obsolescence may become evident. This obsolescence may be caused by a drop in “throughput” (amount of product shipped through the pipeline) due to reduced oil or gas reserve estimates, super-adequacy of the system based on current supply, the shut-in (shut down) of wells due to economic conditions making production uneconomical, or other functional problems or economic conditions affecting the pipeline system.

Because of the time needed to connect wells and/or gathering systems to a new pipeline system, functional/economic obsolescence should be considered only after either of the following two conditions are met:

1. All of the wells and/or gathering systems for which the system was constructed to handle have been connected, or
2. Two full assessment years have passed since the pipeline began operation.

Calculation of functional/economic obsolescence should be done using the following formula:

$$\frac{1 + \sqrt{\frac{\text{Previous Calendar Year Throughput}}{\text{Pipeline Normal Operating Design Capacity}}}}{2}$$

An example calculation of functional/economic obsolescence is shown on the next page.

Example:

A natural gas gathering system with a remaining economic life of 8 years experienced a drop in pipeline utilization (throughput) during the previous calendar year due to several gas wells being “shut-in” by outside producers that were connected to the pipeline. The previous year’s throughput was 12,000,000 MCF and the system’s capacity for which it is currently designed is 20,000,000 MCF.

$$\frac{1 + \sqrt{\frac{12,000,000 \text{ MCF}}{20,000,000 \text{ MCF}}}}{2} = \frac{1 + .7746}{2} = .8873 = 1 - .8873 = .113 \text{ or } 11.3\% \text{ Obsolescence}$$

Application of the above obsolescence amount is to be made in the following manner:

Description	Original Cost	RpdCN	Normal Physical Depr.% ¹	Funct/Econ Obsol.% ²	Total Act. Val.
Field Line	\$ 850,000	\$ 1,208,700	(\$ 616,437)	(\$ 136,583)	\$ 455,680
Field Reg and Meas. Structures	\$ 50,000	\$ 70,100	(\$ 30,844)	(\$ 7,921)	\$ 31,335
TOTAL ACTUAL VALUE					\$ 487,015
¹ Field line physical depreciation			\$ 1,208,700	x 0.51 =	\$ 616,437
Field structures physical depreciation			\$ 70,100	x 0.44 =	\$ 30,844
² Field line functional/economic obsolescence			\$ 1,208,700	x 0.113 =	\$ 136,583
Field structures functional/economic obsolescence			\$ 70,100	x 0.113 =	\$ 7,921

The value illustrated above represents the actual value of the pipeline including the value of the right-of-way attributable to the pipeline. In addition to the field pipe and field structures values, any other real and personal property used in conjunction with the pipeline must be valued and assessed separately.

Special Procedures For Newly Acquired Used Pipeline Personal Property:

In valuing used pipeline personal property, if the actual historical age of the personal property at the time it was acquired by the current owner either meets or exceeds the age corresponding to 15% Good in the **Percent Good Tables** for pipeline systems, the current owner's actual acquisition cost is to be treated as the Reproduction Cost New, Less Depreciation (RpdCNLD). The actual used-property acquisition cost is "frozen" at that value until that component is permanently taken out of service. **Cost Trending Factors** do not apply to "frozen" values.

In valuing used pipeline personal property, if the actual historical age of the personal property at the time it was acquired by the current owner was less than the age corresponding to 15% Good in the **Percent Good Tables** for pipeline systems, the used personal property is treated as if new. The current owner's actual acquisition cost is subject to depreciation as if the property's economic life for ad valorem tax purposes had begun at the time it was acquired.

In both of the above circumstances, the resulting value should be compared to the sales comparison (market) value for the component, if sales are available.

Depreciated Value Floor for Pipelines (15 percent):

When using the cost approach to value pipelines, the minimum percent good inclusive of physical, functional, and/or economic obsolescence will be 15 percent (15 percent) of the pipeline's reproduction cost new (RpdCN).

This floor may be exceeded when the market or income approach indicates a lower value or when the pipeline has been abandoned and no longer is capable of being used. Any pipeline value established from the use of the cost approach should be crosschecked with sales comparison (market) and income information sources, if possible, and the appropriate value used.

Income Approach Valuation Procedures

In accordance with Colorado constitutional and statutory provisions, the income approach to appraisal must be considered when establishing a value for a pipeline system.

The income (and market) approaches have applicability for valuation of both **gathering systems** and **product transmission and distribution pipeline systems**. Most **gathering system** values are tied to the economic life and economic viability of the oil and gas production field and/or processing plant that is connected to the gathering system. Allocation of income and expenses to the various components may be difficult. If an overall “system” income value is calculated, additional analysis of the relative worth of the various components may be required to arrive at a value of the pipeline property.

For **product transmission and distribution pipeline systems**, the income approach should be considered in determining actual value. When utilizing the income approach to value for transmission and distribution pipelines, the following steps should be followed:

- | | |
|---------|--|
| Step #1 | Obtain an Income and Expense Statement for the pipeline operation. A minimum of three (3) calendar years should be obtained. |
| Step #2 | Determine Net Operating Income (NOI) |
| Step #3 | Determine the Appropriate Capitalization Rate |
| Step #4 | Capitalize the NOI to an Actual Value Estimate |
| Step #5 | Allocate the Total Actual Value into Real and Personal Property Components |

Each of these steps is more specifically discussed below.

Step #1 - Obtain an Income and Expense Statement:

Crucial to using the income approach to value is obtaining income and expense information about the pipeline. In many cases, the pipeline company may be able to provide the assessor with a financial statement listing income and expenses. It is recommended that at least three calendar years of income and expense history be obtained in order to stabilize estimate revenue and expense amounts to what would typically be experienced by the pipeline operation.

Gross income (revenue) estimates are based on the transportation revenue paid to the pipeline company for transporting the product. In some cases, the pipeline company may have a published (or unpublished) tariff that sets forth the fees and charges for transporting the oil and gas product. If a tariff or other form of transportation agreement exists between the producer and pipeline company, the assessor should request it. Because unpublished tariffs and transportation agreements may be proprietary and confidential in nature, the assessor must treat all such tariffs and agreements as confidential according to § 24-72-204(3)(a)(IV), C.R.S.

A list of typical expense categories that may be found in a pipeline income and expense statement are:

OPERATIONS EXPENSES

Supervision and engineering
System load and control dispatching
Communication system expenses
Compressor station labor & expenses
Fuel and power costs
Rents and leased equipment costs
Compression of gas by others
Other transmission expenses
General overhead and administrative

MAINTENANCE EXPENSES

Supervision and engineering
Maintenance costs for:
 Structures and Improvements
Transmission mains
Compressor equipment
Measuring and regulating
 station equipment
Communication equipment
Other equipment expenses

For the above categories, general types of expenses would be:

- Salaries, wages, and benefits paid to employees in the operation and maintenance of transportation mains, equipment and facilities
- Fuel and utility costs
- Materials and supplies including chemicals and lubricants
- Non-capitalized repairs, labor, materials, and supplies directly related to the transportation mains, equipment, and facilities
- Real and personal property taxes
- Insurance and payroll taxes
- Arm's-length rental, leasing, or contract service costs for operation and maintenance of the equipment and facility

- Allocated direct general and administrative overhead costs, e.g. headquarters personnel, telephone service, payroll taxes, employee benefits, vehicle expenses, office supplies, etc., that represent typical expenditures that are directly related to the operation and maintenance of the pipeline system, equipment, and improvements. Assessors should request a copy of the allocation methodology for any on-site or off-site general and administrative costs that are allocated and deducted.
- Book depreciation of the pipeline system assets that is calculated on a straight-line basis over the assigned economic life of the asset.

The assessor should evaluate all taxpayer-provided income and expense information and allow those expenses as a deduction from gross revenue that are directly related to the pipeline operation.

Step #2 - Determine Net Operating Income:

Net operating income is defined as the income remaining after deduction of operating expenses, maintenance expenses, and annual depreciation expense from gross revenue received by the pipeline. Depreciation must be calculated as a straight-line (non-accelerated) deduction from the capitalized remaining undepreciated balance of pipeline assets over its assigned economic life.

After appropriate expenses are deducted, the remaining income is termed net operating income (NOI).

Step #3 - Determine an Appropriate Capitalization Rate:

The Division of Property Taxation annually publishes capitalization rates for use in valuing locally assessed oil and gas pipelines. For 2006, the capitalization rates by pipeline type that must be used are:

Fluid Transmission Pipelines	Gas Transmission Pipelines	Gas Distribution Pipeline
10.62%	11.97%	9.24%

This capitalization rate must be applied to the NOI of the pipeline.

Step #4 - Capitalize Net Operating Income to an Actual Value Estimate:

Capitalizing net income estimates to actual value is calculated by dividing the net income estimates by the capitalization rate. An example of this calculation for a gas transmission pipeline is shown below:

\$100,000	NOI
<u>÷:- 1197</u>	Published capitalization rate (Gas Transmission Pipelines)
\$835,422	Actual Value Determined Through the Income Approach

The final step is to allocate the above pipeline system value to various real and personal property components.

Step #5 - Allocate Value into Real and Personal Property Components:

The actual value estimate determined from capitalization of net income represents the value of the entire pipeline system including land, rights of way, line pipe, structures, and personal property. To arrive at a reasonable value for the line pipe and attached fixtures, an allocation of the total actual value to the various components is required.

Allocation by original acquisition cost of the various pipeline system components can be considered. The assessor should request actual original acquisition costs from the company's financial records for each of the pipeline system components such as rights of way, other lands, transmission mains, pipeline structures, compressor and pumping equipment, and other real and personal property components that are included in the system value of the pipeline. Right-of-way acquisition costs should be excluded from the allocation, as original ROW acquisition costs are associated with land or its use. Since the pipeline could not exist without the Right-of-Way, the value of the Right-of-Way attributable to the pipeline is assumed to be included in the total actual value of the pipeline, once that value is determined. Damage costs paid to the landowner for damage caused by installation of the pipeline system are expenses, not capitalized assets, and are not to be valued with the pipeline. Any intangible personal property assets will also have to be excluded before the final value is considered in the reconciliation process.

In determining allocation percentages, the original acquisition cost of all pipeline system assets, exclusive of right-of-way acquisition costs and damage costs to landowners, are totaled and percentages calculated for each asset as part of the total (100%). These percentages are applied to the indicated income approach value to determine the contributory value of each component of the pipeline system. If oil and gas reserves are included in the overall value of the pipeline system, qualified engineering studies will have to be obtained from the taxpayer to support the allocation of the overall system income value to the contributory value of the reserves. For the purposes of this methodology, it is assumed that each component of the pipeline system contributes equally to establish the total value of the pipeline system from the income approach.

The income (or market) value of personal property assets can only be considered if it is less than the value determined by the cost approach to value, § 39-1-103(13), C.R.S.

Market Approach Valuation Procedures

In accordance with Colorado constitutional and statutory provisions, the market (sales comparison) approach to value must be considered when establishing a value for a pipeline system.

The market (and income) approaches have applicability for valuation of both **gathering systems** and **product transmission and distribution pipeline systems**. Most **gathering system** values are tied to the economic life and economic viability of the oil and gas production field and/or processing plant that is connected to the gathering system. Allocation of the sales price paid for an integrated system into various components may be difficult.

If an overall “system” market value is calculated, additional analysis of the relative worth of the various components may be required to arrive at a value for the pipeline property. As stated earlier in these procedures, the cost approach typically is the primary method of value for **gathering systems**. However, for **product transmission and distribution pipeline systems**, the market approach should be considered in determining actual value.

Discussions with independent appraisal industry sources indicate that a considerable amount of sales information is unpublished and must be gathered directly from the seller or buyer. In addition, other sources of market sales information are industry reports and Security and Exchange Commission (SEC) 10-K reports for publicly traded companies.

If a product transmission pipeline sells within Colorado, the assessor should confirm the sales price paid and obtain additional information about the pipeline, such as:

1. Allocation of the pipeline sale price to the component values for rights-of-way, line pipe, improvements, and personal property, if possible. If non-pipeline assets such as oil and gas wells, gathering lines, or a gas processing plant were included, portions of the sale price attributable to each component of the pipeline system should be allocated.
2. Description of the pipeline operation including type of product transported
3. Pipeline operational and physical characteristics, such as:
 - a. Pipeline design capacity in MMcfd (million cubic feet per day)
 - b. Average daily pipeline throughput in MMcfd for prior year(s)
 - c. Type of product transported
 - d. The length of the pipeline converted to inch-miles. To convert to inch-miles, multiply the pipeline interior diameter by the number of actual miles of the pipeline
 - e. Age of the pipeline and buyers or sellers estimate of the remaining economic life
 - f. Has any major rehabilitation or replacement of the pipeline been done since construction?
4. Does the sale price represent 100% ownership of the system?
5. Are the seller and buyer related parties?

Each of the above questions and answers is useful in determining the comparability of the sold pipeline to the pipeline system under appraisal.

Making Market Adjustments to Comparable Pipeline System Sales:

Each pipeline system exhibits specific operating characteristics that will allow the appraiser to analyze sales of other pipeline systems similar to the subject property. These characteristics can be used as a unit of comparison when analyzing comparable pipeline system sales.

If a pipeline transports crude oil or natural gas, comparable pipeline sales could be analyzed on a **barrel (Bbl) or million cubic feet (MMcf) per day actual throughput** as a unit of comparison. Other areas of comparison that should be considered are:

- Age of the pipeline system
- Location in relation to proven oil and gas reserves
- Inclusion of non-pipeline assets such as oil and gas reserves, gathering systems, and product processing facilities

It must be pointed out that the valuation determined by the market approach encompasses all of the real and personal property of the pipeline system: land, rights of way, line pipe, buildings, structures, and personal property. It may also include intangible assets such as long-term transportation contracts as well. Intangible personal property assets must be excluded before the final value is considered in the reconciliation process.

Determining Market Values for Pipeline Systems Using Comparable Sales:

Because of the wide variance in pipeline design and product throughput volume, obtaining sufficient truly comparable sales may be problematic. The wide variety of pipeline locations, pipeline types and sizes, type of product transported, and pipeline operating characteristics requires a large database of sales with similar characteristics to ascertain comparability.

If determining a market value estimate is contemplated, it is suggested that a market range based on confirmed sales prices divided by the actual throughput in MMcf per day be attempted. Comparison of this range with other approaches to value will enable the appraiser to determine if the value is reasonable and defensible.

Reconciliation of Valuation Approaches to a Final Estimate of Value

In textbook examples of the reconciliation process, the cost approach, market approach, and income approach are weighed carefully to determine, in the appraiser's opinion, the final market value of the property. The reconciliation is the attempt by the appraiser to explain or reconcile differences that may exist between the various indicators of value and to review the strengths and weaknesses of each approach.

The final value conclusion is subjective, but is based on the indicators plus general overall value influences. Where the appraiser has adequate and reliable data, the greatest reliance is placed on this data in the reconciliation process. For newer pipeline systems in Colorado, the historical cost less depreciation approach is typically considered as the most reliable indicator of value. When the assessor is made aware of additional obsolescence based on functional and/or economic concerns, these adjustments should be considered.

However, as a pipeline ages, the cost approach becomes less reliable. Pipelines that are 15 - 20 years old typically generate higher values through the capitalization of net income than would be represented by the depreciated historical cost approach. However, uses of the income and market approaches carry with them some additional cautions regarding allocation of the indicated value into real and personal property components. Careful allocation of the market and/or income approach values must be done in order to estimate the representative market or income value attributable to the real property assets.

The actual value estimate determined from sales comparison analysis of comparable pipeline sales or from the capitalization of income approach will generally represent the value of the entire pipeline system including land, rights of way, line pipe, structures, and personal property. To arrive at an allocation of value between pipeline real property and personal property, allocation of the pipeline components by original acquisition or installation cost of the various pipeline system components can be considered.

The assessor should request actual original acquisition costs from the company's financial records for each of the pipeline system components such as rights of way, other lands, transmission mains, pipeline structures, compressor and pumping equipment, and any other real or personal property components included in the pipeline system. Please note that intangible personal property assets will have to be excluded before the pipeline components are analyzed. Note also that right-of-way acquisition costs and damage costs paid to landowners are to be excluded from the analysis.

In determining allocation percentages, the original acquisition cost of all pipeline system assets are totaled and percentages calculated for each asset as part of the total (100%). These percentages are applied to the market approach value and/or income approach value(s) to determine the contributory value of each component of the pipeline system. For the purposes of this methodology, it is assumed that each component of the pipeline system contributes equally to establish the total value of the pipeline system from the income approach. Finally, each component is then classified as real or personal property in accordance with Colorado statutes and these procedures. According to § 39-1-103(13)(a), C.R.S., the market (or income) value of personal property assets can only be considered if it is less than the value determined by the cost approach to value.

If oil and gas reserves are included in the overall value of the pipeline system, qualified engineering studies will have to be obtained from the taxpayer to support the allocation of the overall system market value to the contributory value of the reserves.

LOCALLY ASSESSED PIPELINES

LEVEL OF VALUE ADJUSTMENT (ROLLBACK) FACTOR

As required by § 39-1-104(12.3)(a)(I), C.R.S., the current actual value determined each year for personal property must be adjusted to the level of value applicable for real property. The procedure involves the multiplication of the current actual value estimate by the appropriate factor for the type of property being valued. Each year, the Division of Property Taxation researches and publishes these adjustment factors for use by all Colorado Assessors.

Since the Cost Trending Factors for Pipeline Systems have been calibrated to include the Level of Value (LOV) adjustment (Rollback) factor, pipeline values do not require the use of a LOV factor. Put another way, the LOV factor will always be **1.00**.

Best Information Available (BIA) Valuation of Pipelines

If a taxpayer is unable or unwilling to supply basic historical cost and/or income information for the valuation of the pipeline system, the assessor may determine a BIA valuation for the property. Two possible sources for BIA values can be used:

1. Comparable pipeline values per mile based on other pipeline assessments within the county or in other neighboring counties. Age of the system, pipeline throughput, and pipe size are important units of comparison when establishing BIA values. Assessors within the same oil and gas production basin are encouraged to discuss pipeline assessment practices and provide comparative assessment information to be reviewed by all assessors.
2. Section 62, page 6, of the Marshall Valuation Service manual should also be considered as a source of BIA assessments. Make sure you read the explanatory paragraph under “**Pipeline Costs**” associated with the typical costs per mile so the appropriate rate can be assigned. (As with most sections of the Marshall Valuation Service manual, local multipliers may be applicable to the section. Final figures may need to be adjusted to the appropriate level of value using Marshall’s own indices for such data.) You will also have to add costs for compressor/pumping equipment.

It is important that the BIA value be based on comparable pipeline cost information, assessment information, or other source of information related to the pipeline industry.

BIBLIOGRAPHY OF SOURCES

The following sources may contain additional information regarding how oil and gas pipelines are constructed and used:

- Fundamentals of Oil and Gas Accounting - 3rd. Edition
- “Gas Handling and Field Processing,” Plant Operations Training text, Penwell Books
- Modern Petroleum - A Basic Primer of the Industry, Penwell Books
- Oil and Gas Pipeline Fundamentals - 2nd Edition, Penwell Books
- Natural Gas Desk Book, published by Mobil Natural Gas Inc.

Assessors are encouraged to obtain one or more of the reference texts for use in understanding pipeline terminology and other intricacies of pipeline operations.

EXAMPLE VALUATION OF AN OIL AND GAS GATHERING SYSTEM

The subject property is a 12-mile natural gas gathering system owned by B & B Production Company that encompasses 100 oil and gas wells in the Allentown gas field in Carbon County, Colorado. Also included is a pre-engineered metal field office (20’x40’) with concrete floor, four (4) field measurement and regulation station structures that contain regulation and measurement equipment, and two field compressors. For the purpose of this example, the field structures are portable and are classified as personal property.

Right-of-way acquisition cost for construction of the line was \$350,000. Damage costs paid to landowners were included in the right-of-way acquisition cost. A pipeline site map was requested by the assessor and supplied by the taxpayer.

As of January 1, 2005, the gathering system consisted of the following assets:

<u>Asset Description</u>	<u>Mileage</u>	<u>Pipe Size or Capacity</u>	<u>Original Inst. Cost</u>	<u>Year Const</u>	<u>Dist.</u>
Field line	3.9	6"	\$ 857,600	1998	
Field line	2.2	6"	\$ 457,000	1998	
Field line	4.0	8"	\$1,100,000	1998	
Field line	1.9	10"	\$ 400,000	1998	
Rights-of-way	12.00	n/a	\$ 350,000	1998	
Field Structures	n/a	n/a	\$ 25,000	1999	1
Field Structures	n/a	n/a	\$ 32,000	1999	2
Field Office	n/a	n/a	\$ 9,000	2000	2

Although the system has been in place for seven years, the taxpayer indicates that as of the January 1 assessment date, the line was not at normal operating capacity and that this condition had existed during the prior year. Discussion with the pipeline operator revealed that price negotiations had deteriorated between the pipeline company and a few large field owners and many gas wells were selling to local users, instead. This economic condition existed as of the assessment date. Design operating throughput for the pipeline is **25MMcf per day**. Daily average throughput for the prior year was **12MMcf per day**. The taxpayer did not indicate that any other forms of obsolescence were affecting the pipeline system.

Valuation of Subject Gathering System

Valuation of this gathering system will be based on the cost approach to value with additional consideration given to functional/economic obsolescence due to diminished throughput. The cost approach will be calculated using published factors and economic life depreciation guidelines. These factors and depreciation guidelines are included as ***Cost Trending Factors and Percent Good Tables*** at the end of this section.

Valuation of Gathering System Field Line and Right of Way:

Since all of the field lines were constructed in 1996, the total installed cost will be used in this example. However, if there are different years of construction, each year must be considered separately.

Field line	\$ 857,600	1998
Field line	\$ 457,000	1998
Field line	\$1,100,000	1998
Field line	<u>\$ 400,000</u>	1998
TOTAL	\$2,814,600	1998

\$2,814,600
X 1.373
\$3,864,446

Total Original Installed Cost of Field Line
Cost Trending Factor
Reproduction Cost New (RpdCN) of the Field Line

\$3,864,446
X 0.466
\$1,800,832

Total Percent Good (Percent Good* – Funct. Obsoles.)
 (62% – .154)
RpdCN less all Depreciation (RpdCNLD)
 *(from Percent Good Tables)

For pipeline valuation, Reproduction Cost New Less all Depreciation (RpdCNLD) is also termed the **Actual Value** of the pipeline. This is because pipeline Cost Trending Factors include the Level of Value Adjustment in the factors. Note also that the Right-of-way acquisition cost of \$350,000, (which included damage costs paid to landowners) is excluded before the pipeline components are analyzed. Pipeline right-of-way (ROW) acquisition costs should not be separately valued when valuing the assets of a pipeline, as original ROW acquisition costs are associated with land or its use. Since the pipeline could not exist without the Right-of-Way, the value of the Right-of-Way attributable to the pipeline is assumed to be included in the total actual value of the pipeline, once that value is determined. Since damage costs are expenses and not assets, they should not be valued as part of the pipeline system.

Determination of Functional/Economic Obsolescence:

The analysis of gathering system throughput for the prior year indicates the pipeline is not operating at design capacity. This economic condition was caused by adverse contract negotiations causing lesser quantities of gas to enter the pipeline than expected. . Recognition of the above condition is in the form of obsolescence and is calculated using the following formula:

$$\frac{1 + \sqrt{\frac{\text{Previous Calendar Year Throughput}}{\text{Pipeline Normal Operating Design Capacity}}}}{2}$$

Calculation of the actual obsolescence number is shown below:

$$\frac{1 + \sqrt{\frac{12,000,000 \text{ Mcf}}{25,000,000 \text{ Mcf}}}}{2} = \frac{1 + .6928}{2} = .8464 = 1 - .8464 = .154 \text{ or } 15.4\% \text{ Obsolescence}$$

This calculation takes into account the loss in value for the gathering system assets due to diminished use.

Valuation of Field Structures:

Field structures typically include small, shed-like structures used to enclose meters or field regulators attached to line pipe. They may or may not be attached to a concrete foundation. Since the field structures are closely tied to and considered part of the line pipe, for convenience purposes they should be classified and valued as personal property using the same factors and depreciation tables as the line pipe.

Field Structures	\$25,000	District #1	1999
Field Structures	<u>\$32,000</u>	District #2	1999
Total Structures	\$57,000		
District #1		District #2	
\$25,000	\$32,000	Total Original Installed Cost of Field Structures	
X 1.378	X 1.378	Cost New Trending Factor	
<u>\$34,450</u>	<u>\$44,096</u>	RpdCN of the Field Structures	
X 0.516	X 0.516	Total Percent Good	
		(Percent Good* – Funct. Obsolescence.)	
		(0.67 – .154)	
		*(from tables)	
\$17,776	\$22,754	RpdCN less all depreciation (RpdCNLD)	
		<i>Also termed Actual Value of the Field Structures</i>	

Valuation of the Field Office

Since the field office is a pre-engineered metal improvement, it must be classified and valued as real property according to § 39-1-102(14)(c), C.R.S. To determine the cost approach value of the improvement, the Marshall Valuation Service commercial cost manual was used. Specifically, May 2003 base costs for Class S, average quality Light Commercial – Commodity Warehouse (104) utility buildings were used.

These costs are found in Section 17, page 11, of the Marshall Valuation Service manual. Using Section 98, page 5, the base costs were adjusted to reflect June 30, 2004, level of value by using the appropriate cost multiplier for the Western Region to trend the May 2003 base costs forward to the June 30, 2004, level of value.

The Marshal & Swift recommended a 25-year life and the depreciation table applicable for the improvements was used. The depreciation table is located in Section 97, page 16 of the Marshall-Swift manual.

Field Office (2000)	800	Sq.Ft. (20' x 40')
	X \$14.63	(\$15.76 X 0.928)
6/30/2004 RCN	\$11,704	
	X 0.84	Percent Good (100% - 16% deprec.)
Actual Value	\$9,831	

TOTAL VALUATION OF GATHERING SYSTEM ASSETS

Valuation of all the pipeline assets is summed as follows:

ROW	(included in overall value)
Field Line	\$1,800,832
Field Structures	\$40,530
Field Office	\$9,831
TOTAL ACTUAL VALUE	\$1,851,193

Market Approach to Value

Under the Colorado constitutional and statutory provisions, the market (sales comparison) approach to value must be considered along with the cost approach when establishing a value for this gathering system.

In this example, there were no arms-length sales of pipeline gathering systems within the county or within Colorado. As such, this approach to value was considered but not used.

Income Approach to Value

According to Colorado constitutional and statutory provisions, the income approach to value must be considered when establishing a value for a gathering system.

In this example, the gathering system was operated as part of an integrated oil and gas production, processing, and transportation venture. There was no actual sale of the product upon which to complete an income and expense analysis. As such, this approach to value was considered but not used.

Consideration of lost revenue due to underutilization of the pipeline is accounted for in the functional/economic obsolescence analysis portion of the cost approach procedures.

2006 COST TRENDING FACTORS & PERCENT GOOD TABLES

FOR PIPELINE SYSTEMS VALUATION

<u>RCN Trend Factors</u>		<u>Percent Good Tables</u>		
<u>Year of Acquisition</u>	<u>Trending Factor</u>	<u>Effective Age</u>	<u>Gathering</u>	<u>Trunk/Transmission</u>
2005	1.000	1	96%	99%
2004	1.173	2	92%	97%
2003	1.315	3	87%	95%
2002	1.328	4	83%	93%
2001	1.346	5	78%	91%
2000	1.350	6	73%	89%
1999	1.378	7	67%	87%
1998	1.373	8	62%	84%
1997	1.402	9	56%	82%
1996	1.422	10	49%	79%
1995	1.491	11	44%	76%
1994	1.502	12	38%	73%
1993	1.531	13	34%	69%
1992	1.560	14	28%	66%
1991	1.531	15	23%	63%
1990	1.480	16	21%	59%
1989	1.513	17	15%	56%
1988	1.536	18	-----	52%
1987	1.585	19	-----	49%
1986	1.617	20	-----	45%
1985	1.657	21	-----	42%
1984	1.637	22	-----	39%
1983	1.630	23	-----	35%
1982	1.548	24	-----	32%
1981	1.678	25	-----	30%
1980	1.856	26	-----	26%
1979	2.046	27	-----	23%
1978	2.215	28	-----	19%
1977	2.445	29	-----	15%
1976	2.656			
1975 & prior	2.970			

Please note that the Iowa State University studies extend the minimum depreciated value floor from 14 to 17 years for gathering systems and from 22 to 29 years for trunk/transmission pipeline systems. Note also that the RCN Trending Factors are displayed in the same order as the Percent Good Tables. A straight-edge applied at the bottom of any particular Year's row will reveal the correct Trending Factor, the Effective Age for that Year of Acquisition, and the appropriate Percent Good for either a Gathering System or a Trunk/Transmission System.

SATELLITE RECEIVING GROUND STATIONS

Satellite receiving ground stations (ground stations), sometimes referred to as dishes, are personal property. Taxable ground stations should be valued as retail equipment using RCN Factor Table 4 and a recommended life at the Retail Trade Level of 9 years.

Ground stations on residential property, which are associated with the production of income any time during the year are taxable, otherwise they are exempt as residential household furnishings. Ground stations associated with commercial or industrial property are taxable.

SECURITY SYSTEMS CLASSIFICATION AND VALUATION

RESIDENTIAL PROPERTY OWNER'S SECURITY SYSTEMS

Residential security systems, equipment and devices are included as part of the definition of household furnishings exempt from ad valorem taxation in § 39-3-102(1), C.R.S. Such security measures for residential properties are exempt from ad valorem taxation only if they are not used for production of income at any time. Security systems, devices, and equipment in leased or rented residential property are not exempt, because household furnishings that are productive of income at any time during the year are taxable for the entire year.

Examples of residential property owner's security devices and equipment may include, but are not limited to, the following:

1. Photoelectric sensors
2. Point-area detectors, such as:
 - a. alarm systems,
 - b. alarm glass (wired),
 - c. vibration detectors, and
 - d. trip switches
3. Remote annunciators (alarms)
4. Security doors and bars
5. Sound, motion, and stress detectors

For security system personal property located in non income-producing residential property and owned by the residential property owner, the Division recommends that the assessor conduct an analysis of the sales in each economic area for each reappraisal year to determine if security devices and systems contribute any incremental increase in value in that economic area. If it is determined that they do contribute an incremental increase in value, those sales which include the devices/systems should be adjusted to exclude the contributory value of the security items.

When conducting an analysis of sales in an economic area, the assessor should take into consideration the following factors:

1. When security systems are not the norm in a given economic area, then the base market value per unit of comparison for that economic area should be established using sales of residential properties without security systems. This process will enable the assessor to determine values that do not include the value of a security system. Then any contributory value of security systems can be determined by comparing the prices per unit of comparison of residential properties so equipped to the established base values.
2. Although a residential security system may cost the property owners \$3,000 to install, the value of the property may not necessarily increase by the same amount. Depending upon the market's response to the existence of the security system, improved security may or may not contribute an incremental increase in value per unit of comparison to the base values of property within the economic area being analyzed. It is possible, although unlikely, that the system could be a detriment to value.

LEASED SECURITY SYSTEMS

Residential security systems come in several different designs and technical capabilities. However, the average system used for security today contains assorted detection sensors installed into a subscriber's premises. This sensor system is affixed to and wired throughout the structure of the subscribers' house and connected to the lessor's annunciation (alarm) system.

Leased residential security systems, sensors, devices, and/or equipment are taxable to the owner (lessor) of the leased personal property. Leased residential security personal property should be reported by the lessor to the applicable county assessor in section "H" of Form DS 056, Personal Property Declaration Schedule.

The maximum value of the valuation of leased residential security systems, devices, and equipment is to be determined by the acquisition cost reported from the owner of the leased equipment, including purchase price, freight to the point of use, installation, and sales/use tax, unless data for the market or income approach are available and either of these result in a lower value estimate as provided in § 39-1-103(13), C.R.S.

Generally, once a detection system is installed into the structure of a house, the system cannot be removed without significant damage. If a subscriber chooses to discontinue the service contract, the physical wiring of the system is left intact. Generally, there is no influence on the value of the residential property for the intact wiring.

SERVICE STATION LIFTS, PUMPS, AND STORAGE TANKS

Service station hydraulic lifts, gasoline pumps, and underground storage tanks are personal property. They conform to the exception to the definition of "fixtures" contained in § 39-1-102(4), in that: "Fixtures" does not include machinery, equipment, or other articles related to a commercial or industrial operation which are affixed to the real property for proper utilization of such articles."

Thus hydraulic lifts, gasoline pumps and underground storage tanks are not fixtures to real property; nor do they, of themselves, fit the definition of real property contained in

§ 39-1-102(14), C.R.S. Therefore, according to § 39-1-102(11), C.R.S., they must be classified and valued as personal property.

SOFTWARE

Software is defined as the programs used to direct the operation of a computer. Software includes documentation such as manuals, diagrams, and operator instructions. It also includes operating systems software, compilers, assemblers, translators, interpreters, and application programs. These programs are intangible personal property and, therefore, exempt pursuant to § 39-3-118, C.R.S.

The following definitions are given as an aid in understanding what constitutes a computer and various forms of software.

A **computer** is defined as a programmable electronically activated device capable of accepting information, applying prescribed processes to the information, and supplying the results of these processes with or without human intervention. It usually consists of a central processing unit containing extensive storage, logic, arithmetic, and control capabilities.

Included are those production computers which are an integral part of other equipment, such as computers used primarily for process or production control, switching, channeling, and automating distributive trades; and production services such as point of sale (POS) computer systems. Software controlling such production equipment and services is exempt providing these devices are actually controlled by software rather than hard-wired printed circuit boards.

The following definitions are generally from The Prentice-Hall Standard Glossary of Computer Terminology, Robert A. Edwards, (Prentice-Hall, Inc. 1995).

Application programs are created to perform business functions or to control or monitor processes. Examples of canned application programs are Lotus 1-2-3, dBase, Word Perfect, and Microsoft Word.

An **assembler** is a program that converts lower level symbolic instructions into a form suitable for execution on a computer.

A **compiler** is a program used to translate a higher-level symbolic program language into machine language that is understandable to the processor.

An **interpreter** is a program that scans each line of the source program binary code and changes (interprets) it into machine code (binary ones and zeros the computer understands) each time the program is run. An interpreter translates each program instruction and immediately executes it.

Operations or systems programs control the hardware itself and allow it to compile, assemble and process application programs. Examples of canned operations programs are DOS and Unix.

Printed circuit (board) is an electric circuit in which the conducting connections are formed by depositing a conducting metal, such as copper in predetermined patterns on an insulating substrate, e.g. a plastic coated fiberboard; other materials, especially semiconductors, are deposited to form various electronic components. This definition is from The American Heritage Dictionary, Second College Edition (Houghton Mifflin Co. 1985). Printed circuit boards are hardware and therefore do not qualify as software.

A **translator** is a routine, program, or device that is capable of directing the translation or transformation of statements, or their codes, in one language to equivalent statements or codes in another language.

The above software programs can be custom built or canned. Canned programs are also referred to as shelf or generic programs.

All software programs, with one exception, are intangible and exempt from ad valorem taxation. All software is exempt except the machine language that is automatically initiated during the computer startup. This machine language is both a software program and an integral part of the hardware (computer). It is the basic input-output system (BIOS). It is never stated as a separate part of the computer because without this program the computer cannot function. It is the only software which is taxable.

When a taxpayer lists a computer on the declaration schedule, the assessor should determine whether or not the listed cost includes software. If the taxpayer indicates software was part of the cost, but not a separately priced item, the assessor must determine what amount must be deducted from the computer cost to arrive at the original installed cost of the computer.

Contributory value of software that has been included in the computer cost can be valued using the following procedures:

- **Cost Approach** - The cost approach is applied by determining the original cost of the software to the purchaser, including any installation costs, and applying an allowance for depreciation. Typically, the value of custom software will be based upon its original installed cost, less depreciation. In the case of custom software written in-house, development costs can be used in lieu of acquisition costs.

Custom software programs, but not printed circuit boards which are hardware not software, which may be found in such products as typewriters, calculators, elevators, telephone switching systems, computers used primarily for process or production control, channeling, computerized HVAC systems, robotics, and video games, to name a few examples, must have the software portion of the valuation deducted from the cost. However, the value deducted should be provided by the taxpayer in the form of an invoice from the manufacturer. If an invoice or other proof of software value is not available, no deduction should be made.

Since most software is short-lived because of rapid technological advances, a four-year average economic life is to be used. The cost approach is generally the most appropriate for appraising computer software.

- **Market Approach** - The resale market for software is limited. However, publications exist which indicate resale values of popular canned software programs such as Lotus 1-2-3, D-Base, and DOS. One such publication is the NACD Computer Blue Book. Typically, customized software does not have a market value.

- **Income Approach** - In the income approach, net income attributable to the software is capitalized over an appropriate life cycle. This approach may be appropriate in appraising mainframe software, which is often leased rather than purchased.

When software programs are individually listed on a declaration schedule, the assessor must remove any value attributed to the software before determining the taxpayer's personal property value.

TELECOMMUNICATION TOWERS

DISCOVERY AND CLASSIFICATION

Telecommunication towers are defined as personal property designed to facilitate electronic transmission or relay technologies. Telecommunication towers are classified as personal property pursuant to § 39-1-102(11), C.R.S.

Identifying ownership of telecommunication towers may be accomplished by discussion with the owner of the land on which the tower is erected or by reviewing construction permits that may contain the tower owner's name. Current ownership information is necessary to send a declaration schedule and assign tax liability.

Determination of ownership may also be aided by the Federal Communications Commission (FCC) Antenna Structure Registration Listing on the Internet at <http://wireless.fcc.gov/antenna/index.html>. Additional ownership and other related tower information may be found at the following website locations:

<http://www.towersource.com/>

<http://www.planwireless.com/contents.htm>

<http://www.richlandtowers.com/>

Towers may be owned by either a state assessed company or by a company whose property is subject to local assessment. Beginning in 2001, the Division's State Assessed Section will incorporate requirements for state assessed companies to list all towers as part of their Annual Statement of Property.

Both state assessed and locally assessed equipment may be attached to the tower. If the equipment is owned by a state assessed company, it is typically included in the company's Annual Statement of Property rendition to the Division. If it is owned by a non-state assessed company, it should be valued separately by the local county assessor.

VALUATION OF TELECOMMUNICATION TOWERS

Valuation of telecommunication towers may be accomplished using either factored historical costs or a cost service such as Marshall Valuation Service. If factored historical costs are used, RCN Factor Table 1, Average of All trending factors and a recommended economic life of twenty years are to be used. If a cost service is to be used, the service's recommended economic life for towers should be considered.

Pursuant to § 39-1-103(13), C.R.S., the cost approach shall establish the maximum value of personal property, if all costs incurred in the acquisition and installation of the property are fully and completely disclosed by the owner to the assessor. Therefore, the market and income approaches may only be employed in the valuation of telecommunication towers if a value lower than that indicated by the cost approach is indicated.

If subject to state assessment, towers are not subject to local assessment. However, non-state assessed towers are subject to local assessment even if they lease space for equipment to a state assessed company.

Locally assessed electronic equipment installed on towers has a recommended economic life of six years unless it is computer-integrated equipment in which case it has a recommended economic life of four years.

Associated buildings and/or other improvements are valued as real property.

VIDEO ARCADE GAMES

While there are some similarities, video arcade games are not computers. Video arcade games should be placed in RCN Factor Table 1, Average of All. They are properly classified as commercial personal property and they should be given a recommended economic life of six years.

Except for newer cartridge-driven models, video arcade games do not use software programs per se. The legislative declaration and statutory language in SB 90-81 stated that intangible personal property includes, but is not limited to, computer software that is therefore exempt, "...except the built-in machine language acquired as an integral part of the operational function of the computer."

Hard-wired circuit boards that control the operation of most video arcade games are not software programs. Thus, there should be no deduction for software when these circuit boards are valued.

However, video arcade games that use interchangeable cartridges to control their operation are using a type of software-based game program cartridges, which is intangible personal property and, therefore, exempt. The value of these cartridges should be deducted, if it is included in original acquisition costs or market values. See the ***Software*** topic in this section for a discussion of procedures to determine software deductions.

ADDENDUM 7-A, 2006 DRILLING RIG DEPTH SCHEDULE

MARKET VALUATION DEPTH SCHEDULE

To use the market valuation depth schedule, the assessor of the County of Original Assessment (COA) must physically inspect the rig and determine the following:

1. Actual rig depth capacity.
2. Overall physical condition according to condition ratings shown in the condition ratings section.
3. Additional items such as drill pipe and collars.

All operating oil and gas skid-mounted rotary drilling rigs are to be valued for 2006 using the market valuation depth schedule found below. The county clerk or motor vehicle department values self-propelled drilling rigs at the time a Special Mobile Machinery (SMM) license plate is purchased.

MARKET VALUATION DEPTH SCHEDULE		RIG CONDITION		
		POOR/STACKED	FAIR	GOOD
DEPTH RATING	3,999' OR LESS	\$ 34,731	\$ 76,149	\$ 187,373
	4,000' TO 4,999'	\$ 44,266	\$ 96,652	\$ 397,455
	5,000' TO 5,999'	\$ 45,397	\$ 104,202	\$ 403,135
	6,000' TO 6,499'	\$ 71,738	\$ 126,119	\$ 425,845
	6,500' TO 6,999'	\$ 86,259	\$ 140,275	\$ 445,718
	7,000' TO 7,499'	\$ 153,230	\$ 200,390	\$ 556,440
	7,500' TO 7,799'	\$ 192,839	\$ 241,798	\$ 589,553
	7,800' TO 7,999'	\$ 198,573	\$ 251,962	\$ 624,095
	8,000' TO 8,499'	\$ 204,306	\$ 262,110	\$ 658,643
	8,500' TO 8,999'	\$ 208,842	\$ 288,563	\$ 718,758
	9,000' TO 9,499'	\$ 219,288	\$ 300,585	\$ 749,488
	9,500' TO 9,999'	\$ 228,155	\$ 319,020	\$ 793,185
	10,000' TO 10,499'	\$ 246,869	\$ 335,052	\$ 852,234
	10,500' TO 10,999'	\$ 255,272	\$ 348,872	\$ 887,596
	11,000' TO 11,499'	\$ 263,679	\$ 362,675	\$ 922,959
	11,500' TO 11,999'	\$ 275,091	\$ 385,550	\$ 947,174
	12,000' TO 12,499'	\$ 286,613	\$ 408,411	\$ 971,380
	12,500' TO 12,999'	\$ 319,587	\$ 433,211	\$ 1,175,060
	13,000' TO 13,999'	\$ 329,967	\$ 477,348	\$ 1,231,023
	14,000' TO 14,999'	\$ 346,176	\$ 522,779	\$ 1,323,165
	15,000' TO 15,999'	\$ 361,471	\$ 547,706	\$ 1,387,688
	16,000' TO 17,999'	\$ 381,480	\$ 672,796	\$ 1,684,759
	18,000' AND ABOVE	\$ 459,688	\$ 1,214,362	\$ 3,633,881

Using the table from the prior page, find the rig's actual "Depth Rating" in feet, and the "Rig Condition," to determine its market value. Rig depth capacity may be greater than original capacity in the case of modified or remanufactured rigs. Additional items such as drill pipe and collars must be added to this value if they are present.

The resulting market value of the rig, drill pipe, and collars is then multiplied by the specified year's adjustment factor to determine the specified year's level of value.

CONDITION RATINGS

Rig condition ratings must be determined by a physical inspection of each rig using the following guidelines. The appraiser must evaluate the rig as a whole and assign the rating that best approximates the rig's condition. Do not use ratings and values other than those provided.

Good

Operating condition is 100%. No known or obvious mechanical defects, but the rig may have some minor worn parts that will need repair or replacement in the near future. May have high hours of use, but no defects are obvious.

Fair

Has very high hours indicating extended use. Defects are obvious and will require repair or general rebuilding soon. Not 100% functional or efficient, rigs may be operational or functional, but questionable as to how long this will continue.

Poor/Stacked

Has seen very hard and long hours of service. Requires rebuild, repair, or overhaul before it can be used. Not operational or functional.

Stacked rigs are those rigs that have been dismantled, the components have been stacked together over a year, and are in poor condition. Because of stacking, these rigs show additional physical deterioration that will require repairs and/or maintenance to begin operation.

Rigs that have been stacked only a short time, which do not show additional physical depreciation due to "pickling," i.e. they are covered with a preservative grease, or are subject to regular maintenance, should be valued based on their observed condition using the operating rig depth schedule.

ADDITIONAL ITEMS

The values shown in the Market Valuation Depth Schedule for both operating and stacked rigs do not include values for drill pipe and drill collars. The County of Original Assessment (COA) is to add the following values for pipe and collars, to the actual value determined for the drilling rig, prior to apportionment of the total actual value to the Colorado counties in which the rig was located during the prior calendar year:

DRILL PIPE -	\$17.00 per linear foot	
DRILL COLLARS -	7,500' & under	\$19,200
	7,501' to 12,500'	\$25,600
	12,501' & over	\$32,000

LEVEL OF VALUE ADJUSTMENT FACTOR

The actual value of personal property must be adjusted to current level of value for real property as required by § 39-1-104(12.3)(a)(I), C.R.S.

For 2006, the Level of Value (LOV) adjustment factor for drilling rigs is **0.91**.

DRILLING RIG VALUATION EXAMPLE

The subject property is an operating, skid-mounted, rotary drilling rig located, as of January 1, in Carbon County, Colorado. The assessor's physical inspection determined that the rig was originally manufactured to drill up to 8,000 feet in depth. However, after modifications to the drilling rig, it was adjusted to drill up to 10,000 feet in depth. The inspection noted 12,000 feet of drill pipe. The rig is determined to be in Good condition.

10,000' (adjusted rig depth) in Good Condition	
\$ 852,234	Value of rig from table
204,000	(drill pipe - 12,000' x \$17.00 per foot)
+ 25,600	(drill collars - \$25,600 total for a 10,000' rig)
\$1,081,834	Current level of value of rig and related equipment
X 0.91	(specified year's level of value adjustment factor)
\$ 984,469	Specified year's level of value
X .29	(statutory assessment rate)
\$ 285,496	ASSESSED VALUE

The assessed value is then apportioned, as required in § 39-5-113.3(2), C.R.S., to all counties where the rig was in operation during the previous calendar year. Refer to *Special Administrative Issues*.

INDEX

A

abatement or refund	1.18
abatement petition	1.9, 1.18, 3.40, 5.19
Accessing New Sales Tax Account Listings	2.6
Accessing Taxpayer Colorado Income Tax Records	2.19
account identification number	2.10, 2.11
Account Identification System	2.10
account records	2.1
Accounts To Be Analyzed	5.7
accrued depreciation	3.10, 3.15, 3.16, 3.21
acquired without monetary cost	3.9
acquisition, statutory citation	4.1
Acquisition/Disposition Records	5.17
actual value	
\$2,500 or less in actual value	1.2
\$2,500 or less per county statutory citation	2.15
\$2,500 or less statutory citation	2.25
assessment rate, multiplied by equals assessed value	1.7
assessors determine	3.1
bankruptcy or forced liquidation auctions generally do not reflect	3.25
BEL level of value adjustment factor	6.5
BEL's and valuation grids	6.3
cost value must be used if accurate and lower than market and income	4.12
current valuation information	3.5
drilling rig, destroyed, apportioned	7.6
income approach	3.38
installation, sales/use tax, and freight are included	3.30
level of value adjustment factors	4.18
level of value, adjusted to	1.6
market value must be used if accurate and lower than cost	4.12
movable and portable property, apportioned	7.4
multiplied by 29%	3.47
Notice Of Valuation (NOV) lists	1.14
oil and gas equipment taxable personal property	6.3
omitted property	3.44
RCNLD reflects current	3.21
reconciliation of the approaches to	3.38
sales comparison (market) method	3.24
works of art owner notified of proration	7.9
works of art prorated	7.8
ad valorem tax law	1.1
additional information	1.8, 1.14, 5.3, 6.5, 6.15
Adjust comparable sales data	3.24
adjustment (rollback) factor	6.5, 6.16
agricultural	1.4, 2.10, 2.16, 2.26, 2.27, 2.28
Agricultural and livestock products	1.3, 1.5
agricultural equipment	2.27
Agricultural equipment	1.5
Agricultural Equipment Used on the Farm or Ranch	2.26
agricultural items which are primarily tied to the business operation	2.27

all other property.....	2.28
allowable expenses	3.32, 3.34
Alpha listing.....	2.11
amended apportionment.....	7.4
annual assessment study contractor	2.13
annual cycle	2.4
APPLICATION OF THE APPROACHES.....	3.4
application programs.....	7.52
apportionment of value	1.11, 2.23
APPORTIONMENT OF VALUE	7.1
appraisal performance analysis.....	5.1, 5.2, 5.19
appraisal records	2.3, 2.9, 2.10, 2.14, 2.18, 3.2, 3.42, 4.6, 5.3, 5.16, 5.17
Approved Manuals, Guidelines, Forms and Related Data.....	2.8
APRIL	1.22
AR 290 personal property appraisal record	2.9
arbitrator.....	1.18, 2.13
archives	2.14
assemblers	7.52
assessment calendar	1.1, 1.14
assessment rate.....	1.7, 3.50, 6.5, 6.16
assessment roll	1.7, 2.2, 2.4, 2.8, 2.21, 3.44
Assessment Status Test for Property Owned by Others	5.17
assessor	
\$2,500 or less in actual value.....	2.16, 2.26
abatement petition.....	5.19
accurate property listings through discovery	2.1
acquisition costs of similar property, compared	3.13
acquisition year and year of first use	2.34
actual value, estimates	3.16
additional information, may request	1.14
additions and deletions only, after initial filing	2.18
additions and deletions reconciled with prior year	2.19
adjustments made depend on data and judgment.....	3.28
administrative remedy steps, adheres to	1.14
administrative steps prior to determining valuation	2.1
appraisal approach is not applicable	3.2
appraisal performance, analyzes	5.1
appraisal valid only for one year.....	3.1
assessed values, determines	1.7
assessments not invalidated by nonreceipt	1.8
assessments, documents.....	2.10
assets in storage	7.13
audit for abatement, performs	1.9
audit for certain abatements, must have performed	1.19
audit plan.....	5.19
audit plan for personal property.....	5.7
audit, personal property minimum sample.....	3.49
BEL, gathers physical inventory data	6.12
BEL, uses well type commonly found, if uncertain.....	6.14
Best Information Available (BIA) assessment, makes	1.9
Best Information Available (BIA) assessments, makes.....	3.40
BIA abatement	3.40
BIA data sources	3.42
BIA valuation, performs physical inspections.....	3.46

BIA valuations, bases on current cost, market, or income information.....	3.46
business address assists in determining taxable situs	2.17
catalog pricing cautions	3.13
CBOE hears appeals	1.16
certification of values, responsibilities	1.7
classification decisions, makes two fundamental	2.23
Colorado Constitutional exemptions, determines if criteria met	1.4
computer software.....	7.54
confidential information, all information entered or attached to declaration schedule ...	3.49
confidential information, prohibited from using if unavailable to taxpayer.....	3.47
cost approach to be considered in good faith, penalty	3.5
cost approach, must use if correct and lower.....	4.12
cost approach, uses factors.....	4.2
cost factor that corresponds to year of acquisition, uses	4.2
cost index for fixtures or leasehold improvements, uses	4.6
county of original assessment, drilling rigs	7.6
county of original assessment, movable or portable equipment	7.1
current market sales defined	3.24
current valuation information defined	3.4
customized forms, may create if approved	2.9
data to be gathered	3.2
data, superior quality, quantity, and defensibility, relies upon	3.40
declaration schedule, furnishes	1.2
declaration schedule, must provide two copies	2.8
declaration schedule, receives.....	1.8
depreciation, considered and documented	3.16
depreciation, deducts	3.21
description of the personal property	3.3
determination for abatement, must mail	1.19
disassembled, noninstalled personal property	3.25
discovery of property after April 15	2.3
discovery, listing, classification, valuation.....	1.2
district court for data, may petition.....	1.14
drilling rig declaration schedule and drilling log.....	7.5
drilling rigs, county of original assessment apportions	7.7
drilling rigs, county of original assessment values	7.6
drilling rigs, furnishes copy of apportionment and NOV to taxpayer	7.6
drilling rigs, information taxpayer must submit	1.11
drilling rigs, values based on prior year.....	7.6
equipment dealers or lessors to determine rental rates, contacts	3.32
equipment dealers, local surveys	3.13
exempt property definitions	2.24
exempt property, determines except	1.3
exempt works of art confirmation.....	2.36
exempt works of art proration.....	2.38
expenses, deducts current typical operating	3.34
extension deadline not met	3.41
final estimate of value	3.38
Form 301	7.12
forms to be archived.....	2.14
GSA price list cautions	3.12
income (rental or lease amounts), measures	3.32
income data, may request.....	1.11
income to property not business, estimates	3.32

income value used if sufficient data and value lower	3.30
income, cannot allocate to components	3.32
incurable functional and economic obsolescence	3.19
incurable physical depreciation, measures.....	3.16
installation, sales/use tax, and freight	3.30
itemized list, creates during physical inspection, if necessary	5.9
late filing penalty, imposes	1.8
leased property returned to manufacturer, not for scrapping or substantial reconstruction	2.33
leases and bills of sale used to discover.....	2.3
letter of authorization for hearing must be received	1.16
level of value adjustment factors, must use	1.6
manuals, procedures, and forms, must use approved.....	2.8
manufacturer/lessor must report items back in service.....	2.23
market data analyzed wherever the market exists	3.24
market data differences	3.27
market data, gathers	1.10
market information, may request	1.10
market value, not liquidation value.....	3.25
movable property, requests amended apportionments.....	7.4
net income defined.....	3.34
net income, estimates in some cases	3.19
new owner disagrees with the value	2.13
new owners after January 1 have right to protest	1.16
notice of determination, mails	1.9
Notices Of Valuation (NOV's), must mail	1.16
obsolescence, considers functional and economic.....	4.14
obsolete property sold.....	3.21
office review	5.3
oil and gas equipment audit	6.10
oil and gas equipment condition	6.14
oil and gas equipment field compressors, etc.	6.19
oil and gas equipment filing extension	6.7
oil and gas equipment itemized list.....	6.7
oil and gas equipment leased or loaned	6.17
oil and gas equipment physical inspection	6.8
oil and gas equipment reconditioning	6.14
oil and gas equipment stored equipment.....	6.24
oil and gas equipment stripper wells.....	6.10
oil and gas well depth, audits.....	6.12
omitted property penalty, imposes.....	1.9
original installed costs not reported.....	3.6
other sources of information used for discovery	2.4
owner unknown.....	3.40
ownership cannot be ascertained	2.16
ownership number, assigns	2.11
penalty valuation, adds	3.41
penalty valuation, adds up to 25% of the omitted property total.....	3.46
penalty valuation, applies for only the assessment year of discovery	3.44
penalty valuation, maintains documentation of	3.46
penalty valuation, must notify taxpayer.....	3.44
percent good table, determines economic life and age of the property	4.13
percent good table, uses	4.12
percent good, adjusts.....	3.19

percentage adjustments	3.28
performance analysis results	5.18
performance analysis tests	5.17
performance analysis, documents	5.11
personal effects producing income	2.34
personal property not listed by taxpayer	5.9
personal property owned by, in the possession of, or under the control of taxpayers, values	3.1
physical inspection of personal property	5.5
physical inspection plan	2.19
portable equipment, taxpayer provides list	1.11
property listing responsibilities	2.6
property under suspicion of removal, certifies	1.7
protest must be filed by taxpayer for hearing	1.16
protest responded to in writing	1.16
RCN defined	3.10
RCN estimation methods	3.10
RCNLD, estimates	3.18
real property items reported with personal	5.11
reconciliation	3.38
replacement cost manuals, commercial	3.13
sales comparison with sufficient data when value is lower, uses	3.23, 3.32
sales comparison, uses to set up percent loss	3.21
sales data, sources	3.25
sales of comparable properties, confirms	3.24
sales tax account listings, uses	2.6
security systems, leased	7.51
security systems, residential property owner's	7.49
SMM, values and subsequently the SMM is moved	7.12
SNOV preserves taxpayer rights	2.2
software	7.55
special mobile machinery, values if one of two conditions exist	7.11
Special Notice of Valuation (SNOV)	3.41
staff may view declaration schedules, in performance of their official duties	2.12
start-up date of the business	2.17
statutory personal property penalties	3.41
tax warrant, delivers to treasurer	1.7
taxable personal property, values all	3.40
taxpayer depreciation schedule	2.19
taxpayer fails to file schedule	3.44
taxpayer fails to fully and completely disclose	3.43
taxpayer first filing should be itemized list	1.10
taxpayer must file even if assessor fails to send	2.8
taxpayer must file exempt works of art documents	2.38
taxpayer must fully and completely disclose	2.17
taxpayer must submit apportionment data	2.23
taxpayer must submit other information, if requested	2.14
taxpayer name and address	2.16
taxpayer not required to file	2.17
taxpayer of failure to disclose, notifies	1.9
taxpayer should provide market and income information	2.23
taxpayer submits information	1.8
taxpayer, must notify on approved NOV's	2.9
three approaches to appraisal, documents	1.1

three approaches to appraisal, must document	3.1
units of comparison, determines	3.26
unsigned declaration schedules, keeps.....	2.21
valuation methods, must inform taxpayer of	1.14
valuation reviews	5.2
valuations are just and equalized, ensures	5.1
verified sales information, notes	3.24
works of art, notifies owner of actual value and proration	7.9
Asset Category Test	5.17
asset classification.....	5.16
assets in storage	7.13
audit	1.9, 1.19, 2.34, 3.40, 3.49, 5.7, 5.19, 6.10, 6.12
AUDIT STANDARDS	5.20
AUGUST	1.25
Automatic Rollover Leases.....	2.31
average-lived equipment.....	3.17

B

BASIC EQUIPMENT LISTS AND VALUATION GRIDS	6.17
basic input-output system	7.54
BEL	
actual value	6.3
additional installed equipment	6.20
Basic Equipment List (BEL) methodology.....	6.1
basin/county cross reference	6.12
basins for which, not developed	6.17
basins identified by AAPG	6.12
classified by comparing actual equipment.....	6.12
condition of equipment and status of the well	6.14
depth and production	6.5
fluid or gas production.....	6.8
installed additional and stored equipment list	6.14
leased or loaned equipment.....	6.17
method of lift.....	6.12
other equipment subject to local assessment	6.19
production equipment only	6.1
stored equipment.....	6.24
stripper wells.....	6.16
valuation grids described	6.1
well type determination	6.14
BEST INFORMATION AVAILABLE VALUATION	3.40
BIA.....	1.8, 1.9, 2.21, 3.9, 3.40, 3.41, 3.42, 3.44, 3.46, 5.6
bills of sale	2.3
Board of Assessment Appeals	1.1, 1.18, 2.13, 3.2
books of original entry	5.15
bulk sale of personal property assets	3.9
burden of proof	2.34
business activity code	3.13, 3.21
Business Enterprise Information.....	5.11
Business Personal Property Not As Yet In Use.....	2.33
Business Records and Publications.....	2.4

C

Cadastral cards	2.11
capitalization and expense practices	5.11
Capitalization of Income Loss	3.19
capitalization rate	3.19, 3.32, 3.34, 3.36, 3.38
Capitalize Net Income Into an Indication of Value	3.36
Certification of values	1.7
Charitable property	1.5
charitable purpose	1.4, 2.36, 7.8
chattels	1.3, 2.24
City or town property	1.5
Class F personal property	1.11, 7.9
classification	1.2, 2.16, 2.23, 2.24, 2.26, 5.6, 6.14, 6.16, 6.34, 6.36
Colorado Constitution must describe	1.3
Colorado Division of Minerals and Geology	2.14
Colorado Oil and Gas Conservation Commission	2.14, 6.10, 6.14
complete disclosure	1.9, 1.10, 2.14, 2.21, 3.5, 3.6, 3.23, 3.30, 3.40, 3.44, 3.45, 3.46
COMPLIANCE REQUIREMENTS	3.49
Component parts of personal property held for sale	2.30
computer software	1.4
computer-based equipment that has two or more separate functions	7.17
computer-controlled equipment	7.20
Computer-integrated Machinery and Equipment	
economic life	4.16
CONDITION OF EQUIPMENT	6.14
conditional sales agreement	7.21
conditional sales agreements	7.22
confidentiality	3.49
consumable	6.3, 7.13
Consumable personal property	1.5
contract rent	3.34
contract rights	1.4
Copiers	
percent good table	4.17
copyrights	1.4, 2.30
Cost Approach Procedure	3.9
cost approach to value is to be considered the maximum value	3.1
cost factor tables	4.2, 5.17
cost index	3.10, 4.6
Cost to Current Owner	3.6, 3.9, 3.23, 5.16
costs of acquisition	1.1, 3.1, 3.23, 3.30
county	6.3
county board of equalization (CBOE)	2.13
County fair property	1.5
County lease-purchase property	1.5
county of original assessment	7.4, 7.6, 7.7
court of appeals	1.18
Credit Union personal property	1.5
curable functional obsolescence	3.19
Curable physical depreciation	3.19
custody transfer point	6.1, 6.3, 6.19, 6.20

D

DATA COLLECTION AND ANALYSIS	3.2
data used in determining the actual value of any property	3.47
de novo hearing	1.18
DECEMBER	1.27
declaration schedule	
\$2,500 or less in actual value not required to file	2.26
\$2,500 or less in total actual value not required to file	2.16
\$2,500 or less in total actual value per county not required to file	3.41
abatement petitions approved	5.19
abatements in excess of BIA disallowed, unless	3.40
accounting (book) balances	2.19
additions and deletions from prior two years compared	5.3
additions and deletions furnished after original itemized list	6.8
additions and deletions only, after initial filing	2.18
Administrator approves form and size	2.9
assessment auditor and staff have access only as it pertains to fulfillment of their contract	2.13
assessor and staff have access as it pertains to their official duties	2.12
assessor can mail to all taxpayers	2.8
assessor makes itemized list, if not initially provided	2.19
assessor must provide two copies	2.8
attachments and submissions confidential	2.23
Best Information Available (BIA)	3.40
bulk sale of assets	3.6
business personal property not as yet in use	2.34
business status impacts rest of the information	2.17
business type value ranges	3.42
collection of specific information	3.3
compare leased equipment to lessor's declaration schedule	5.17
computer software	7.54
confidential information	3.49
confidentiality	2.12
current owner cannot see past owners without written consent	2.13
discovery of personal property	2.1
drilling rigs	7.4
drilling rigs destroyed	7.6
drilling rigs filed by April 15	7.6
effective age	3.17
failure to file works of art statement forfeits exemption	7.9
failure to receive does not invalidate a BIA assessment	1.8
failure to receive does not invalidate assessor's valuation	3.40
false, erroneous, or misleading information	1.9
filed by April 15	2.14
filed for property owned by employees and contractors	2.8
filing extensions	1.8
information listed on appraisal records	2.9
itemized list submitted during protest of BIA valuation	3.41
late filing penalty	1.9, 2.21, 3.41
leased property used in the business	2.3
leases and bills of sale used, without	2.3
leasing company - DS 060	2.21
leasing company discovery	2.21

mailed as soon after January 1, as practical	2.1
manufacturers who lease property	2.22
natural resources used for both real and personal property	2.14
net book value not reported	5.16
note items not listed during physical inspections	5.9
office review	5.3
oil and gas equipment condition	6.14
oil and gas equipment itemized list	6.7
oil and gas equipment reconditioning	6.15
oil and gas taxpayers all required to file	6.7
original costs reported reconciled with subsidiary ledgers	5.13
original installed cost declared	3.6
original listing	2.3
performance analysis tests	5.17
personal effects producing income	2.34
personal property owner's statutory duties	1.7
sales comparison (market) approach	3.23, 3.32
Section I	1.10
signature, must be signed by owner or authorized agent	2.21
software programs individually listed must be removed	7.55
taxpayer fails to return	1.8
taxpayer files for more than \$2,500 in actual value	1.2
taxpayer not required to file	2.17
taxpayer should submit market or income information, if available	2.23
thirty day or less exemption	2.31
timely and properly filed	1.1
treasurer and staff have access only as it pertains to collection of the taxes	2.12
unchanged from prior year	2.16
used personal property	3.6
valuation reviews	5.2
delinquent schedule	1.9, 3.43
Delivery of the tax warrant	1.7
depreciated value floor	3.8, 3.9, 3.11, 3.21, 3.23, 4.14, 4.15
detailed list	2.12, 2.17, 2.18, 3.49
Discount Rate	3.36
discovery	1.2, 1.9, 2.1, 2.3, 2.4, 2.6, 3.2, 3.44, 3.46, 5.6, 5.13, 5.18
DISCOVERY AND LISTING OF PERSONAL PROPERTY	2.1
discovery of leased property	2.21
distribution system	7.27
district court	1.14, 1.18, 2.13
DOCUMENT FINDINGS AND CONCLUSIONS	5.18
documentary evidence	5.15
Dollar adjustments	3.28
DR 5714	2.5
Drilling logs	1.12
DS 050 Works of Art Declaration Schedule	7.9
DS 056	1.8, 1.10, 2.14, 2.16, 3.49, 7.4, 7.51
DS 658	6.7, 6.12, 6.28, 6.30, 6.32, 6.34, 6.36
due diligence	2.16, 3.40

E

economic life estimates	4.1, 4.8
economic obsolescence .. 3.5, 3.8, 3.11, 3.16, 3.18, 3.19, 3.21, 3.22, 3.30, 4.12, 4.14, 4.15, 5.5	

economic rent.....	1.11, 3.34
effective age.....	3.16, 3.17 , 3.18, 4.13, 5.12
effective tax rate.....	3.19, 3.36
electronic-controlled equipment.....	7.20
Equal taxpayer treatment.....	5.1
Estimate Replacement Cost New.....	3.10
examination of accounting books and records.....	5.7, 5.11, 5.18, 5.19
exempt	
\$2,500 in actual value, not first \$2,500.....	2.15, 2.25
\$2,500 or less in total actual value per county not required to file.....	3.41
agricultural and livestock products.....	2.26
agricultural equipment.....	2.27
assessment date status retained for entire assessment year.....	1.12
assessor determines, exempt.....	1.3
business activity code.....	2.10
Colorado constitution, Article X, Sections 3 to 6.....	1.3
definitions.....	2.24
economic life of one year or less and consumed in the ordinary course of business.....	5.11
Exempt Property Section, Division.....	1.4
farm or ranch.....	2.28
gaming establishment materials and supplies.....	7.23
intangible personal property.....	1.4
inventories of merchandise and supplies.....	2.30
inventory cannot be subject to depreciation.....	2.30
inventory listed on the company's financial records.....	2.30
leased to government entities.....	2.34
livestock.....	2.28
manufacturer's property designated for scrapping or major reconditioning.....	2.33
mechanical systems on farm or ranch used for conveyance and storage.....	2.27
plant, grow , or harvest an agricultural product.....	2.27
program software intangible.....	7.52
property exempt by definition.....	1.4
property is taxable unless specifically exempt by Colorado Constitution.....	2.24
property which law mandates.....	1.1
proration.....	7.8
religious worship, private nonprofit schools, charitable purposes.....	1.4
rental property rented or leased for 30 days or less.....	2.31
residential security systems.....	2.28
satellite ground stations.....	7.49
security systems, residential.....	7.49
software, except.....	7.54
software, video games.....	7.57
statutory citations.....	1.5
supply items.....	2.31
taxpayer has responsibility to prove.....	2.25
United States government property.....	1.4
until first put into use citation.....	2.18
until first used.....	2.33
work of art as household furnishings.....	2.28
works of art.....	2.36
works of art loaned to an exempt organization.....	7.8
works of art not subject to depreciation.....	2.38
works of art private collections.....	2.36
works of art proration.....	7.8

exemption of U. S. government property.....	1.4
External Evidence	5.16
Extraordinary Functional and Any Economic Obsolescence	3.21

F

Factor Groupings	4.3
failure to fully and completely disclose.....	3.43, 3.44
farm or ranch.....	1.4, 2.27, 2.28
Federal Bureau of Land Management.....	2.14
Federal Employer's Identification Number	1.20
Federal Government Records	2.4
File jackets	2.11
final estimate of value.....	3.40, 5.3, 5.18
financial records.....	1.10, 2.30, 5.13, 5.15
financial statements.....	5.15
financing leases.....	7.22
finished goods	2.30
fixture systems	1.3, 2.24
fixtures	1.2, 1.3, 2.3, 2.23, 2.24, 4.6, 5.11, 7.51, 7.52
flow line and piping	7.26
Form 301	7.12
franchises	1.4, 2.30
freight to the point of use.....	3.29, 3.30
auction sales, estimate must be added	3.25
catalog price, estimate must be added	3.13
comparable property adjusted.....	3.9
cost approach considered maximum value, when.....	3.1
declaration schedule, Section D.....	2.18
equipment dealer survey, estimate must be added.....	3.13
GSA price list, estimate must be added	3.12
income approach, adjustment.....	3.38
manufacturer's cost, estimate must be added	3.6
market sales, adjusted	3.24
original installed cost, includes.....	3.6
property acquired without monetary cost, estimate must be added.....	3.9
sales comparison (market) approach used, when.....	3.23
security systems, leased must include.....	7.51
taxpayer accounting records must include.....	5.16
taxpayer accounting rules	5.11
taxpayer responsibility to disclose.....	2.14
timely and properly filed the declaration schedule.....	1.1
unique personal property, estimate must be added.....	3.9
used equipment guides, estimate must be added	3.25
functional obsolescence	2.24, 3.5, 3.15, 3.18, 3.19, 3.21, 7.13

G

gaming equipment.....	7.23
gasoline pumps.....	7.51, 7.52
gathering system	7.27
general ledger.....	2.19, 5.15
general property class	2.10
GEOLOGICAL BASINS.....	6.12

goodwill	2.30
gross income	3.32, 3.34
GSA List Prices	3.11

H

High and Low Value Item Test.....	5.17
historical cost	3.6, 4.2, 4.6
household furnishings	2.15, 2.25, 2.28, 2.36, 2.38, 7.49
Household furnishings not used to produce income at any time	1.3
How To Depreciate Property	4.8

I

improvements.....	1.2, 1.3, 1.8, 2.23, 2.24, 3.17 , 3.32, 3.34, 4.6, 5.6, 5.11
income tax returns for business taxpayers, including depreciation information	2.19
Incurable Functional	3.19
incurable physical depreciation	3.16, 3.18, 3.19
index tables	4.2
Indian property (on reservation)	1.5
initial telephone call.....	2.6
installation	
auction sales, estimate must be added	3.25
catalog price, estimate must be added	3.13
comparable property, adjusted.....	3.9
comparable sales prices, adjusted for	3.29
cost approach considered maximum value, when.....	3.1
declaration schedule, Section D.....	2.18
equipment dealer survey, estimate must be added.....	3.13
GSA price list, estimate must be added	3.12
income approach used, when	3.30
income approach, adjustment.....	3.38
manufacturer's cost, estimate must be added	3.6
market sales, adjusted	3.24
original installed cost includes.....	3.6
property acquired without monetary cost, estimate must be added.....	3.9
sales comparison (market) approach used, when.....	3.23
security systems, leased must include.....	7.51
taxpayer accounting records must include.....	5.16
taxpayer accounting rules	5.11
taxpayer responsibility to disclose.....	2.14
timely and properly filed the declaration schedule.....	1.1
unique personal property, estimate must be added.....	3.9
used equipment guides, estimate must be added	3.25
installation, statutory citation.....	4.1
installed additional equipment list	6.16
intangible personal property	1.4, 7.52
interpreter.....	7.52
Inventories of merchandise, materials and supplies	1.3
Inventory owned by and in the possession of the manufacturer.....	2.33
IRS depreciation	2.18
itemized inventory of the property.....	6.5
itemized list.....	1.10, 2.17, 2.18, 2.19, 3.41, 3.44, 5.9, 6.7, 6.8, 7.23
Items which are held for consumption by a business, farm, or ranch.....	2.30

J

JANUARY	1.22
judicial review.....	1.18
JULY	1.24
JUNE	1.24

L

late filing or failure to fully disclose penalty	2.8
Lease Automatic Custody Transfer	6.1
leased or rented equipment	1.10, 5.13, 6.5
leasehold improvements.....	1.8, 4.6, 5.6, 5.11
legal foundation	1.1
<u>legal</u> title to the personal property	7.22
Lessor Personal Property Declaration Schedule	2.21
level of value adjustment factors	4.1
listing	
account records	2.1
additions and deletions only after complete listing is filed	2.18
appraisal records, from declaration schedule.....	2.9
assessment roll	1.7
assessor responsibilities	1.2, 2.6
confidential	2.12
depreciated assets still in use, stored assets taxable	2.18
drilling rigs.....	7.3
filed by location	5.13
fully depreciated assets, obtained or verified.....	5.16
itemized, required including	6.7
leasehold improvements.....	1.8, 5.6
leasing companies, supplemental.....	2.21
oil and gas equipment, basins	6.17
oil and gas equipment, complete.....	6.7
oil and gas equipment, initial contact	6.8
oil and gas equipment, program.....	6.8
original	2.3
performance analysis verifies	5.19
physical inspection of personal property	2.6
livestock	1.3, 1.5, 2.26, 2.27
Location listing	2.11
long-lived	3.17
Long-lived Equipment	3.17

M

manufacturer's cost	3.6
market approach.....	1.10, 4.1, 4.12
market guides	7.18
Marshall & Swift	3.10
Master Property Record Cards.....	2.11
method of production.....	6.1
modular electronic and/or computer controls	7.20
movable or portable equipment	1.11, 7.1
Municipality leased property	1.5

N

National Graphics Company	7.12
net income	3.19, 3.32, 3.34, 3.36, 3.38, 6.5
non-functional personal property items	7.13
Nonproducing Unpatented Mining Claims	1.5
notice of determination	1.9, 1.19, 3.40
Notice of Valuation (NOV)	1.14, 3.41
Notify Owner of Performance Analysis Results	5.18
NOVEMBER	1.27
Numerical listing	2.11

O

office review	5.2, 5.3, 5.7, 5.18, 5.19
Oil and Gas Equipment Valuation	6.31, 6.33, 6.35, 6.38, 6.39, 6.41
Oil and gas equipment valuation is subject to two general personal property exemptions ...	6.3
Oil and Gas Equipment Valuation Worksheet	6.31, 6.33, 6.35, 6.38, 6.39, 6.41
oil and gas equipment, assesses	6.3
oil and gas gathering, transmission, and distribution pipelines	7.25
oil and gas skid mounted drilling rigs	7.1, 7.4
operating software	1.4
operations programs	7.53
original installed cost	1.10, 3.6, 3.10, 3.11, 4.14
Other Computer Equipment	
percent good table	4.16
Out of state owner listing	2.11
ownership files and records	2.10
ownership number	2.11

P

patents	1.4
penalties	2.14, 2.21, 2.31, 3.41, 3.43
penalty for failure to fully and completely disclose personal property	3.44
Penalty for Late Filing	3.43
penalty valuation	1.9, 3.41, 3.44, 3.46
percent good	3.8, 3.11, 3.13, 3.18, 3.19, 3.21, 4.1, 4.8, 4.12, 4.13, 4.14
percent good table	3.18, 4.1, 4.12
percentage adjustments	3.28
performance analysis	2.6, 2.19, 3.4, 3.41, 5.1, 5.2, 5.6, 5.7, 5.9, 5.11, 5.17, 5.18, 5.19
Performance Analysis Interview	5.9
performance analysis tests	5.17
Personal Computers (PCs) and Accessories	
percent good table	4.16
personal effects	2.15, 2.25, 2.34, 2.36
Personal effects not producing income	1.5
Personal effects not used to produce income at any time	1.3
personal property	
if its use is primarily tied to a business operation	2.24, 2.27
more than \$2,500 in actual value per county	2.8
personal property account records	2.1
PERSONAL PROPERTY ASSESSMENT CALENDAR	1.22
personal property audit plan	3.49, 5.7, 5.19

personal property declaration schedule.....	See declaration schedule
personal property that are 'held for consumption by any business'	2.15
Personal property which is held primarily for sale by a business, farm, or ranch.....	2.30
physical depreciation	3.16, 3.18, 3.19, 4.12, 7.13
physical inspection	
accounting records reconciled	5.13
assessor notifies taxpayer of results.....	5.18
BIA, omitted property penalty	3.44
cost data confirmed	3.4
definition	5.5
discovery of personal property	2.6
effective age, use, and condition determined.....	3.17
failure to timely file the declaration schedule.....	3.46
items of personal property not listed, noted.....	5.9
new owner disagrees with the value	2.13
newly acquired personal property.....	1.16
no itemized list, assessor creates during	5.9
NOV's, usually begins after	5.5
objectives	5.5
office review identifies accounts	5.3
oil and gas equipment, condition determined	6.14
oil and gas equipment, first step	6.5
oil and gas equipment, initial contact	6.8
oil and gas equipment, program.....	6.8
original itemized list	2.19
performance analysis program.....	5.7
significant questions arise.....	5.3
Physical Inspection Planning.....	5.6
Physical Inventory by the Assessor	6.8
physical location number	2.11
pipeline rights-of-way and easements.....	7.27
pipeline systems.....	7.26
pipelines	7.25
PP of \$2,500 total actual value or less per county	1.6
Private school property	1.5
Procedures For Office Review.....	5.3
production total	6.8
profit.....	1.4, 3.16, 3.33, 5.15
Promotion of accuracy	5.2
Proof of the Display Location's Exemption.....	2.38
property declaration schedule	See declaration schedule
Property Leased to Governmental Entities	2.34
Property Secondary (Sub) Leases	2.31
Proration of value.....	7.8
Proration of Works of Art Valuations.....	2.38
Public library property	1.5

R

raw materials.....	2.30
RCN from outside sources	3.8
RCNLD	2.9, 3.8, 3.10, 3.11, 3.18, 3.19, 3.21, 4.12, 4.14, 7.36
real or personal.....	2.23, 2.24
Real Property Fixtures and Leasehold Improvements.....	4.6

Recapture Rate	3.36
reconciliation	2.9, 3.38, 5.13
Recorded Documents and Other Discovery Sources	2.3
refund excess tax revenues to qualified taxpayers	1.20
remaining economic life	3.3, 3.8, 3.11, 3.16, 3.21, 4.14, 7.31
rent	1.11, 2.20, 2.31, 2.33, 3.32, 3.34, 4.12
rental property	2.21, 2.31
replacement cost factors	4.1
replacement cost new	2.9, 3.6, 3.8, 3.10, 3.11, 3.15, 3.18, 4.2, 4.12
replacement cost new less depreciation	2.9
replacement parts inventory	2.30
Reproduction Cost New	3.5
residential household furnishings	7.49
Review Objectives	5.3
Review of Property Account Files and Records	2.6
right-of-way or easement	7.27

S

sales comparison (market) approach	3.24
sales tax information	2.6
sales/use tax	
auction sales, estimate must be added	3.25
catalog price, estimate must be added	3.13
comparable property, adjusted	3.9
comparable sales prices, adjusted for	3.29
cost approach considered maximum value, when	3.1
declaration schedule, Section D	2.18
Department of Revenue records	2.3
equipment dealer survey, estimate must be added	3.13
GSA price list, estimate must be added	3.12
income approach used, when	3.30
income approach, adjustment	3.38
manufacturer's cost, estimate must be added	3.6
market sales, adjusted	3.24
original installed cost, includes	3.6
property acquired without monetary cost, estimate must be added	3.9
sales comparison (market) approach used, when	3.23
security systems, leased must include	7.51
taxpayer accounting records must include	5.16
taxpayer accounting rules	5.11
taxpayer responsibility to disclose	2.14
thirty days or less exemption, collected when property is finally sold	2.23
timely and properly filed the declaration schedule	1.1
unique personal property, estimate must be added	3.9
used equipment guides, estimate must be added	3.25
sales/use tax records	2.3
Satellite receiving ground stations	7.49
School District leased or rented property	1.6
School District lease-purchase property	1.6
School District owned property	1.6
Section A - Name and Address and Actual Physical Location of the Personal Property	2.16
Section B - Business Start-Up Date and Product or Service Type	2.17
Section C - Business Status	2.17

Section D - Listing of Personal Property	2.17
Section E - Unlicensed Special Mobile Machinery (SMM)	2.19
Section F - General Ledger	2.19
Section G - Cost of Fully Depreciated Assets Still in Use	2.19
Section H - Leased, Loaned, or Rented Equipment	2.20
Section I - Declaration	2.21
security devices and systems	1.3, 2.24, 7.49
security systems	2.28, 7.49, 7.51
SELECTION OF APPROPRIATE BEL	6.12
self-propelled construction equipment	1.4, 2.19, 7.11
self-propelled construction equipment owned by a public utility	7.11
self-propelled drilling rigs	1.11, 7.3
semi-trailers	1.4
SEPTEMBER	1.26
Service Organization Property Leases	2.31
Service station hydraulic lifts	7.51
shakedown	2.34
Short-lived Equipment	3.17
skid mounted drilling rigs	7.6, 7.8
skid mounted oil and gas drilling rigs	1.11, 1.12, 7.8
SNOV	3.41, 5.18, 5.19
software	1.4, 2.30, 7.52
source documents	5.15
SPECIAL ADMINISTRATIVE ISSUES	7.1
Special Considerations	3.46
Special District lease-purchase property	1.6
Special District property	1.6
special mobile equipment	1.11
special mobile machinery	7.1
Special Notice of Valuation	2.2, 2.3, 3.41, 5.18, 5.19
SPECIAL PERSONAL PROPERTY ADMINISTRATIVE ISSUES	1.11, 1.12, 1.13
SPECIAL PERSONAL PROPERTY VALUATION ISSUES	2.3, 4.3, 4.16, 7.13
specific ownership tax	1.4, 1.11, 5.6, 7.1, 7.4, 7.11, 7.12
Standard Industrial Classification Manual	2.10
State Government Records	2.4
State lease-purchase property	1.6
Statutory Exemptions by Category of Property	1.3
statutory maximum is \$1.25 per page unless actual costs exceed this amount	3.47
stocks and bonds	1.4
stored equipment list	6.24
STORED EQUIPMENT LIST	
condition of this equipment determined independently from BEL	6.14
market value of stored equipment	6.24
statewide list	6.16
valuation procedures	6.24
very good, average, minimum	6.25
stripper well	6.10, 6.16, 6.34, 6.36, 6.37
stripper well designation	6.10
subsidiary ledgers	5.13
supply item	2.31
suspicion of removal	1.7, 2.16

T

tank and separator values on the Installed Additional Equipment List	6.17
tax return information	2.5
taxable	
account records	2.1
accurate listing of property	2.1
actual value	3.1
Administrator approves form and size of declaration schedules	2.9
apportionment of value	7.1
assessor must value all taxable personal property	3.40
assessor responsible for discovery, listing, classification, and valuation	1.2
assessor values all taxable property owned by, in the possession of, or under the control	3.1
assets in storage, no longer producing income	7.13
business furniture and equipment	2.33
defined	1.3
equipment used to produce any income during any time of the year	2.34
furniture, freestanding appliances, and security systems found in rental units	2.28
gaming equipment	7.23
leased property returned to manufacturer, but not for scrapping or substantial reconstruction	2.33
location (situs)	2.17
newly acquired property put into use prior to January 1	2.18
oil and gas basic equipment lists (BEL)	6.19
oil and gas surface equipment and submersible pumps and sucker rods	6.1
personal property held for rent or lease with a life of greater than one year	2.31
personal property in State on Jan 1 generally taxable for the entire assessment year	1.12, 7.8
personal property is inspected	5.1
personal property owners required to complete and file a declaration schedule	2.14
physical inspection objectives	5.5
property is assessed to the proper owner	5.3
property is taxable unless specifically exempt by Colorado Constitution	2.24
property which law mandates	1.1
proration	1.12
proration of property must be specifically allowed by statute	1.12
proration of value	7.8
satellite ground stations associated with commercial or industrial property	7.49
satellite ground stations, residential producing income	7.49
security systems in private homes used to produce income at any time during the year	2.28
security systems, leased	7.51
security systems, residential used for the production of income	7.49
software, BIOS	7.54
tax warrant, assessment roll	1.7
taxpayer must fully and completely disclose	2.17
treasurer believes property may be removed, dissipated, or distributed	1.7
works of art proration	7.8
works of art, only personal property prorated	7.8
works of art, unless	2.38
Taxable or Exempt	2.23
taxable situs	2.17
taxable value of special mobile machinery	7.10
taxpayer's permanent account valuation file	2.3
TD-1000 real property transfer declaration	2.3

technological obsolescence	7.16, 7.18, 7.20
telecommunication machinery and equipment	7.21
telecommunication towers	7.55
test or “shakedown” mode	2.34
three approaches to value	1.1
total actual value	
\$2,500 or less per county not required to file	2.16
\$2,500 or less per county selection criteria	2.8
\$2,500 or less per schedule not required to file	2.26
towers	7.55
trademarks	1.4
trailer coaches	1.4
transmission system	7.27
trial de novo	1.18
true lease	7.21, 7.22
trunk or transmission pipeline	7.28
types of cost	3.5
typical physical depreciation	3.18

U

underground storage tanks	7.51, 7.52
unique personal property	3.8
unique personal property account identification number	2.10
units of comparison	3.24, 3.26, 3.27, 3.29
Until Use of Acquired Personal Property	1.6
used personal property	3.6, 3.9, 3.21, 4.14

V

Valuation equity	5.1
valuation of used personal property	3.21, 4.14
valuation procedures	1.1
Vapor flare/recovery systems	6.22
Vapor flare system	6.22
Vapor recovery system	6.22
verification letter	5.7
Verification of data	5.2

W

WASTE OIL RECYCLING OPERATIONS	6.16
Well Depth	6.29, 6.31, 6.33, 6.35, 6.38, 6.39, 6.41
Wellheads as additional equipment	6.20
Atypical wellhead use	6.21
Combination wellheads	6.21
Dual wellheads	6.20
Flanged wellheads	6.20
Threaded wellheads	6.21
wheeled trailers	1.4
work in progress	2.30
works of art	2.23, 2.36, 2.38, 7.8, 7.9